



H Y A S G R O U P

**City of Santa Clara**  
**457 Deferred Compensation Plan**

March 31, 2023 Performance Report

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## **Section 1 | Market Overview**

**GLOBAL ECONOMIC LANDSCAPE**

- Following seven rate hikes in 2022, the Federal Open Markets Committee raised rates by a total of 0.50% in 1Q23 (0.25% in February and 0.25% again in March) while continuing its monetary tightening program. Together with more restrictive lending standards from banks, these monetary effects tighten financial conditions and threaten to slow economic activity<sup>1</sup>.
- Global markets have been faced with divergent central bank policies. On the contractionary side, the Federal Reserve and the European Central Bank (ECB) have embarked on aggressive tightening campaigns, seeking to curb inflationary pressures. Since February 2022, the Fed has unwound about \$530 billion of its balance sheet assets (a -6% change), while the ECB has unwound \$1.6 trillion of its balance sheet assets (a -16% change). However, the Bank of Japan (BoJ) and People's Bank of China's (PBoC) vigorous asset purchases have largely offset these actions. The PBOC added ~\$600 billion to its balance sheet (a +11% change) from October to December 2022, responding to the economic implications of lockdowns. The BoJ, hoping to maintain its yield curve control policy, bought \$850 billion worth of assets (a +18% change) from October 2022 to February 2023<sup>2</sup>.
- European headline inflation declined substantially during the first quarter of 2023. Welcome as this development may appear, much of it was due to declining energy prices while core inflation in areas like services and food remain high. Wages, which typically lag, are showing signs of rising. The overall composition and direction of inflation indicates its potential to stay higher for longer, reducing the probability for central bank policy easing<sup>3</sup>.
- China's property sector accounts for \$4.5 trillion of the country's GDP (versus \$3.4 trillion for the United States). After 17 months of decline due to the combination of quarantine and policy tightening, property prices increased by 0.3% in February 2023. Continued demand growth here may support commodity prices, considering that the country accounts for nearly half of the global demand for iron ore, aluminum, copper, nickel, zinc, and steel<sup>4</sup>.
- The US Banking system exhibited increasing funding pressure as yields on bank deposits struggled to compete with those of money market funds. In the first quarter of 2023, money market assets exceeded deposits of all domestically chartered banks for the first time since 2021 and by a substantial margin. This may place continued earnings stress on bank stocks, which in turn have been shown to be leading economic indicators<sup>5</sup>.

<sup>1</sup> Source: Morgan Stanley, Portfolio Construction and Cross-Asset Strategy, April 4, 2023

<sup>2</sup> Source: Morgan Stanley, Topics in Portfolio Construction, March 14, 2023

<sup>3</sup> Source: Morgan Stanley, Euro Inflation Watch, March 31, 2023

<sup>4</sup> Source: Morgan Stanley, China's Reopening and Property Sector Improvement Are Key to Commodity Demand, April 5, 2023

<sup>5</sup> Source: Morgan Stanley, Weekly Warm-up: April 3, 2023

## **FIXED INCOME MARKETS<sup>6</sup>**

- Bond market performance was broadly positive in 1Q23, with most bond sectors positing returns of low- to mid-single digits. Longer-term bonds were among the highest performers as rates fell on the expectation of an earlier end to the Federal Reserve's rate-hiking cycle. The thirty-year Treasury for example returned 5.99% versus 2.96% for the US Aggregate Bond Market.
- Yields across the US Treasury curve declined in largely parallel fashion in 1Q23, dropping from 0.3% to 0.4% for Treasuries maturing two-years and beyond. Only the very front-end of the yield curve increased during the quarter, with 3-month and one-year Treasury bills eclipsing year-end levels by smaller margins.
- 1Q23's general decline in yields notwithstanding, a broad range of fixed income indices ended the quarter at the upper end of their ten-year range, contrasting the more recent rate environment with the low-rate regime of the prior decade. While yields in most fixed income sectors stood between 1.5% to 3.5% above their trailing ten-year median, leveraged loans were notably higher, ending the quarter at 11.3% versus a median of 5.7%, suggesting a higher degree of market apprehension being priced into this sector.
- Credit spreads on US High Yield bonds continued to appear range-bound, ending the quarter at 4.99% versus a long-term average of 5.66%. Default rates ended the quarter below long-term averages as well but continued their upward trend. Although market commentators have communicated concern about how this sector may fare during a downturn, credit spreads are not yet at levels typically consistent with recessions.

## **EQUITY MARKETS**

- By the end of 1Q23, equity indices improved, the growth style outperformed value, large-cap beat mid- and small-cap stocks, and information technology was the strongest performing sector. Interestingly, a smaller portion of the constituents of the S&P 500 Index outperformed it than in the preceding quarter, indicating a decline in market breadth<sup>7</sup>.
- The US equity risk premium (ERP), computed as the difference between the S&P 500's trailing earnings yield and the US 10-year Treasury yield, provides a proxy for how much equity investors may expect to receive in compensation for their additional risk versus bonds. A review of data since the early 1900s indicates that investors do not appear to be adequately compensated for assuming equity risk versus Treasuries. In fact, over the 120-year history, the ERP has rarely been lower than where it is today (excluding the unique periods of high Treasury yields in the 1970s to 1990s)<sup>8</sup>.

<sup>6</sup> Source: JP Morgan Guide to the Markets, 2Q2023

<sup>7</sup> Source: Morgan Stanley, Portfolio Construction and Cross-Asset Strategy, April 4, 2023

<sup>8</sup> Source: Morgan Stanley, Topics in Portfolio Construction, March 14, 2023

- The MSCI Emerging Markets Index entered a bull market (up 20% from its trough) in mid-January. Features such as stabilization in earnings estimate revisions, fund flows showing relative strength, and China's re-opening bringing high savings amounts to markets support the view that Emerging Market Equities may have additional upside<sup>9</sup>.
- The US Technology sector posted strong returns relative to the S&P 500 Index for 1Q23. This strong outperformance, in the context of increasing economic pessimism, has prompted the question of if the sector may be counted as defensive one alongside others that are typically categorized as such (for example Consumer Staples, Healthcare, and Utilities). Research indicates however, that Technology tends to perform strongly versus the broader market, including its defensive sectors, when US Bank Reserves are increasing, as has been the case towards the end of the quarter, suggesting that Technology's recent outperformance is more a product of liquidity rather than economic durability<sup>10</sup>.

## ALTERNATIVE INVESTMENTS<sup>11</sup>

- With property prices posting negative year-over-year comparisons and the office vacancy rate nearing a 20-year high, the commercial real estate (CRE) market may be vulnerable to adverse developments in interest rates or bank lending. More than half of the nearly \$2.9 trillion in CRE mortgages will be up for refinancing in the next 24 months, and regional banks account for 70% to 80% of the loans. Even if current rates stay flat, the new lending rates may well be higher. For building owners themselves, secular headwinds from the embrace of remote/hybrid work options pose additional complications that may accelerate CRE markdowns.
- The collapse of Silicon Valley Bank puts the spotlight on venture capital (VC) appearing over-valued and exposed to liquidity shortages. At current burn rates, it is estimated that the median VC-backed company will run out of cash in the second half of this year. Limited partners, (that is, the funds' investors), face more than \$500 billion of capital calls at a time when many portfolios have been marked only modestly lower. The impact of the potential collision of a need for cash versus a dearth of attractive value opportunities could be economically significant. VC-backed companies employ upward of five million workers and drive revenue in important public companies.
- The Private Equity industry sits on roughly \$2.3 trillion of so-called "dry powder" and can certainly insert itself right now as an opportunistic provider of capital for new vintage funds. However, investments made during the past two years face valuation markdowns and may themselves need capital that has been previously provided through other funding channels. But with unfunded capital calls still in front of many asset allocators and recent distributions scant, the fundraising environment could get tougher. Prior cycles have had 50% peak-to-trough declines in new capital raised.

<sup>9</sup> Source: Morgan Stanley, Asia EM Equity Strategy, April 6, 2023

<sup>10</sup> Source: Morgan Stanley, From the Director of Global Research, Charts That Caught My Eye, April 4, 2023

<sup>11</sup> Source: Morgan Stanley, Global Investment Committee Weekly, April 3, 2023

## Disclosure:

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For further information please contact Tom Breaden ([tbreaden@hyasgroup.com](mailto:tbreaden@hyasgroup.com)).

Hyas Group, 9755 SW Barnes Road, Suite 660, Portland, Oregon 97225; 503-634-1500

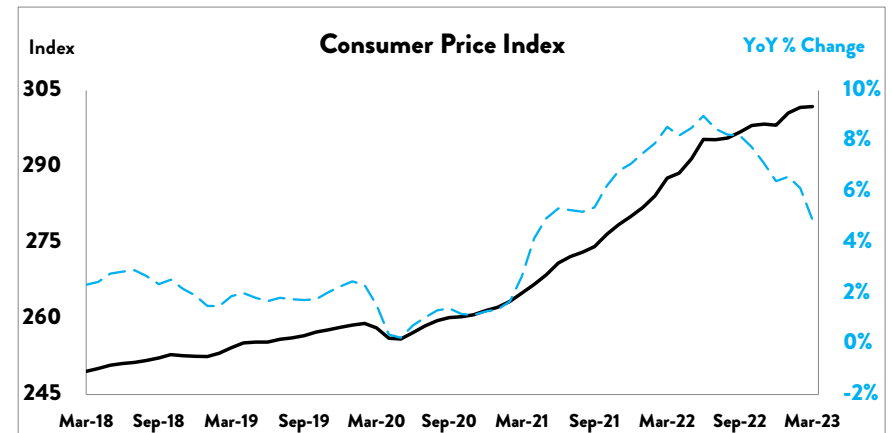
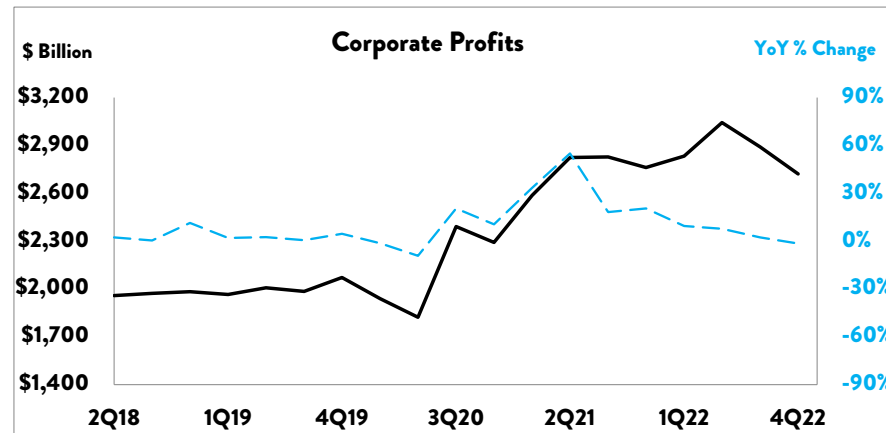
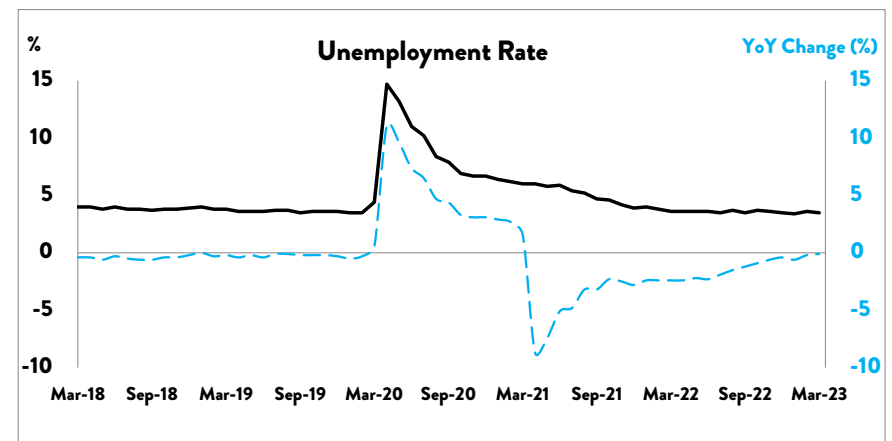
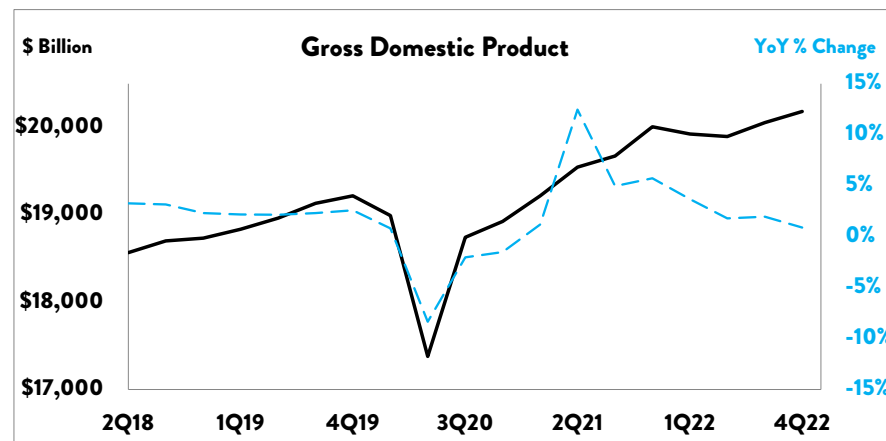
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# 1Q2023 Economic Data



Key: — Economic Series

- - - Year-Over-Year Change

Labor Market Statistics (Monthly)					
Category	Recent	5-Yr High	5-Yr Low	5-Yr Avg.	Date
Jobs Added/Lost Monthly	236,000	4,505,000	-20,493,000	112,333	Mar-23
Unemployment Rate	3.5%	14.7%	3.4%	4.9%	Mar-23
Median Unemployment Length (Weeks)	9.6	22.2	4.0	11.1	Mar-23
Average Hourly Earnings	\$33.18	\$33.18	\$26.89	\$29.77	Mar-23

Source: Federal Reserve Bank of St. Louis and Bureau of Labor Statistics

Other Prices and Indexes (Monthly)					
Category	Recent	5-Yr High	5-Yr Low	% Off Peak	Date
Gas: Price per Gallon	\$3.40	\$4.84	\$1.80	-29.7%	Mar-23
Spot Oil	\$73.28	\$114.84	\$16.55	-36.2%	Mar-23
Case-Shiller Home Price Index	300.4	316.2	208.7	43.9%*	Jan-23
Medical Care CPI	547.0	557.4	483.5	13.1%*	Mar-23

\*% Off Low

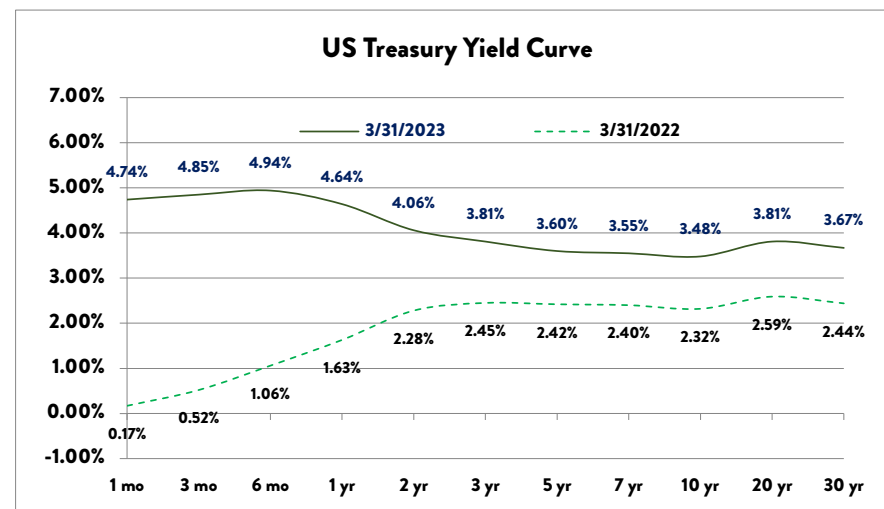
Morningstar data as of 3/31/2023



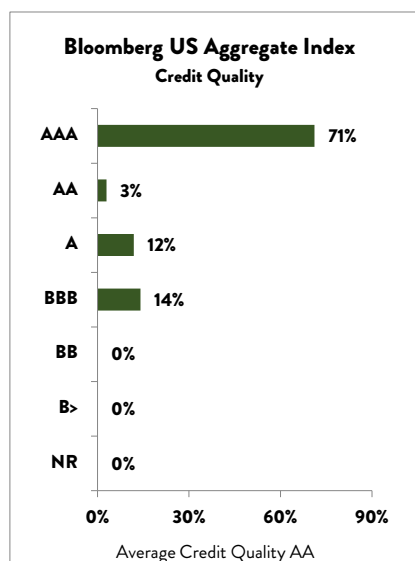
# 1Q2023 Bond Market Data

Index	QTR	YTD	1 yr.	3 yrs.	5 yrs.	10 yrs.
90-Day T-Bill	1.16%	1.16%	3.17%	1.12%	1.46%	0.91%
Bloomberg US Aggregate	2.96%	2.96%	-4.78%	-2.77%	0.91%	1.36%
Bloomberg Short US Treasury	1.15%	1.15%	2.27%	0.76%	1.43%	0.91%
Bloomberg Int. US Treasury	2.27%	2.27%	-1.54%	-2.33%	1.06%	0.90%
Bloomberg Long US Treasury	6.17%	6.17%	-16.00%	-11.33%	-0.35%	1.45%
Bloomberg US TIPS	3.34%	3.34%	-6.06%	1.75%	2.94%	1.49%
Bloomberg US Credit	3.45%	3.45%	-5.31%	-0.70%	1.54%	2.18%
Bloomberg US Mortgage-Backed	2.53%	2.53%	-4.85%	-3.31%	0.20%	1.00%
Bloomberg US Asset-Backed	1.86%	1.86%	0.37%	0.58%	1.63%	1.41%
Bloomberg US 20-Yr Municipal	3.22%	3.22%	-1.02%	0.16%	2.32%	2.97%
Bloomberg US High Yield	3.57%	3.57%	-3.34%	5.91%	3.21%	4.10%
Bloomberg Global	3.01%	3.01%	-8.07%	-3.43%	-1.34%	0.07%
Bloomberg International	3.06%	3.06%	-10.72%	-4.13%	-3.17%	-0.99%
Bloomberg Emerging Market	2.15%	2.15%	-4.64%	0.06%	0.31%	2.07%

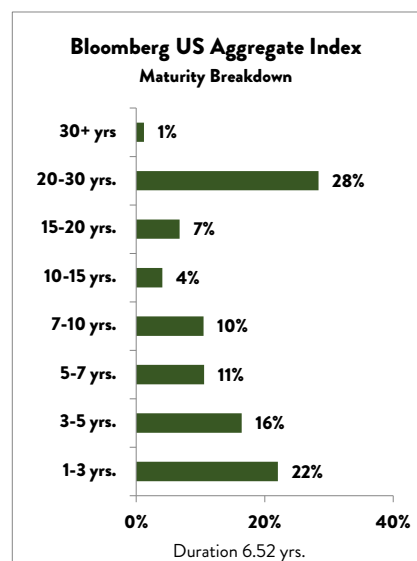
Source: Morningstar



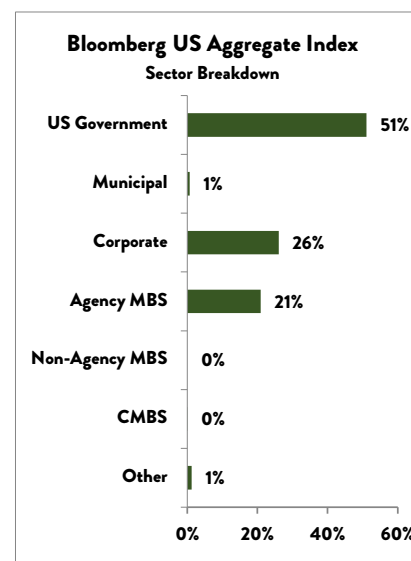
Source: Department of US Treasury



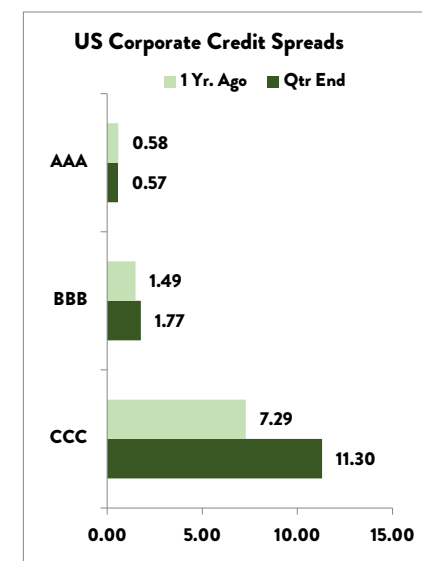
Source: Morningstar



Source: Morningstar



Source: Morningstar



Source: Federal Reserve / Bank of America

# 1Q2023 US Equity Market Data

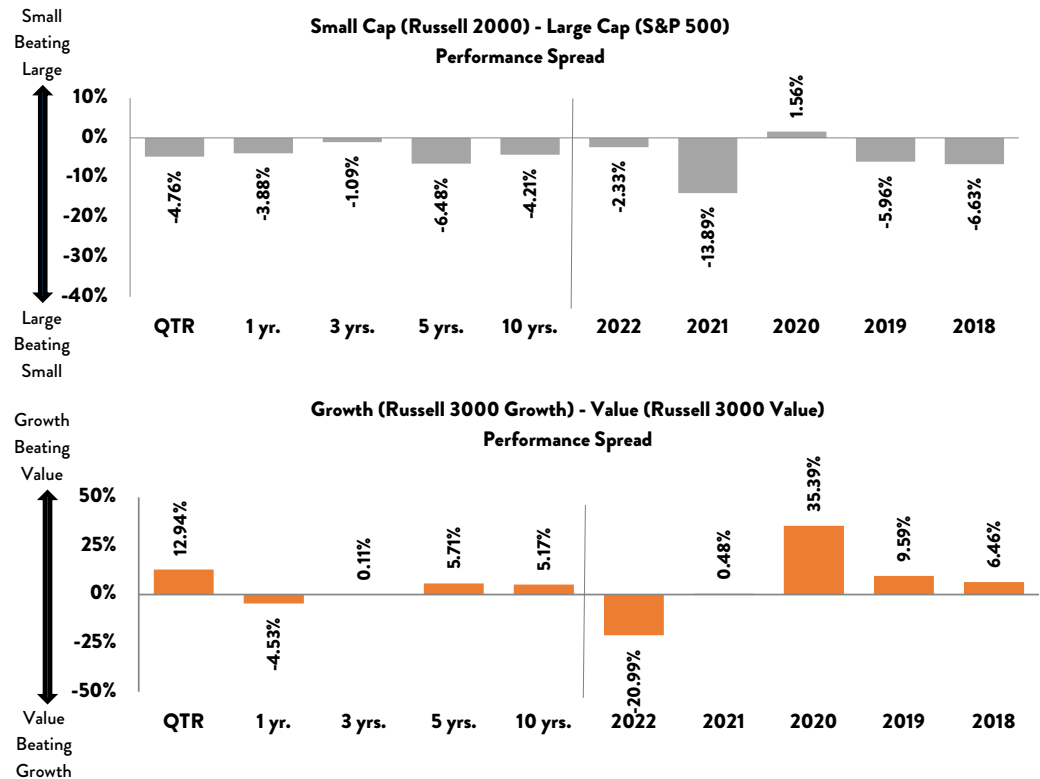
## Sectors Weights/Returns (ranked by quarter performance)

S&P 500 Index	Wgt.	Sector	QTR	YTD	1 yr.
	26%	Information Technology	21.82%	21.82%	-4.55%
	8%	Communication Services	20.50%	20.50%	-17.76%
	10%	Consumer Discretionary	16.13%	16.13%	-19.62%
	3%	Materials	4.29%	4.29%	-6.28%
	9%	Industrials	3.47%	3.47%	0.17%
	3%	Real Estate	1.95%	1.95%	-19.69%
	7%	Consumer Staples	0.83%	0.83%	1.22%
	3%	Utilities	-3.24%	-3.24%	-6.21%
	14%	Health Care	-4.31%	-4.31%	-3.70%
	5%	Energy	-4.67%	-4.67%	13.63%
	13%	Financials	-5.56%	-5.56%	-14.24%
S&P Midcap 400 Index	Wgt.	Sector	QTR	YTD	1 yr.
	10%	Information Technology	14.62%	14.62%	-0.83%
	22%	Industrials	8.55%	8.55%	4.07%
	15%	Consumer Discretionary	8.00%	8.00%	-0.23%
	7%	Materials	7.16%	7.16%	-3.49%
	2%	Communication Services	4.42%	4.42%	-13.64%
	4%	Consumer Staples	3.78%	3.78%	5.56%
	8%	Real Estate	0.98%	0.98%	-23.48%
	9%	Health Care	0.42%	0.42%	-12.95%
	4%	Utilities	-2.44%	-2.44%	-4.12%
	15%	Financials	-7.54%	-7.54%	-9.39%
	4%	Energy	-8.46%	-8.46%	-7.69%
S&P Smallcap 600 Index	Wgt.	Sector	QTR	YTD	1 yr.
	14%	Consumer Discretionary	12.73%	12.73%	-2.73%
	2%	Communication Services	11.10%	11.10%	-20.63%
	13%	Information Technology	10.10%	10.10%	-5.12%
	6%	Materials	8.97%	8.97%	1.39%
	5%	Consumer Staples	8.49%	8.49%	11.03%
	18%	Industrials	7.74%	7.74%	4.67%
	11%	Health Care	-0.45%	-0.45%	-18.25%
	2%	Utilities	-0.86%	-0.86%	-1.84%
	7%	Real Estate	-3.61%	-3.61%	-29.55%
	5%	Energy	-8.46%	-8.46%	-5.68%
	16%	Financials	-11.51%	-11.51%	-19.75%

Source: Morningstar

## Index Performance Data

Index	QTR	YTD	1 yr.	Annualized		
				3 yrs.	5 yrs.	10 yrs.
S&P 500	7.50%	7.50%	-7.73%	18.60%	11.19%	12.24%
Russell 1000 Value	1.01%	1.01%	-5.91%	17.93%	7.50%	9.13%
Russell 1000 Growth	14.37%	14.37%	-10.90%	18.58%	13.66%	14.59%
Russell Mid Cap	4.06%	4.06%	-8.78%	19.20%	8.05%	10.05%
Russell Mid Cap Value	1.32%	1.32%	-9.22%	20.69%	6.54%	8.80%
Russell Mid Cap Growth	9.14%	9.14%	-8.52%	15.20%	9.07%	11.17%
Russell 2000	2.74%	2.74%	-11.61%	17.51%	4.71%	8.04%
Russell 2000 Value	-0.66%	-0.66%	-12.96%	21.01%	4.55%	7.22%
Russell 2000 Growth	6.07%	6.07%	-10.60%	13.36%	4.26%	8.49%
Russell 3000	7.18%	7.18%	-8.58%	18.48%	10.45%	11.73%
DJ US Select REIT	2.77%	2.77%	-20.98%	11.32%	4.66%	5.31%

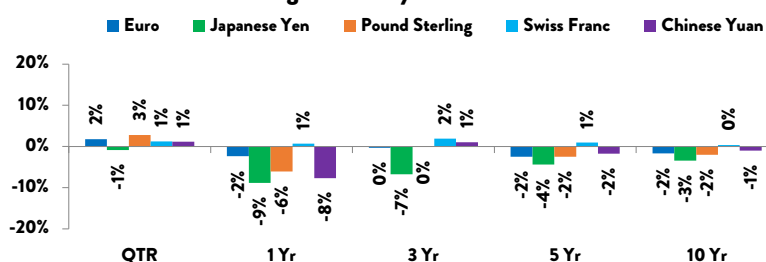


# 1Q2023 International Market Data

## Index Performance Data (net)

Index (US\$)	QTR	YTD	1 yr.	3 yrs.	5 yrs.	10 yrs.
MSCI ACWI ex-US	6.87%	6.87%	-5.07%	11.80%	2.47%	4.17%
MSCI EAFE	8.47%	8.47%	-1.38%	12.99%	3.52%	5.00%
Europe	10.56%	10.56%	1.38%	15.00%	4.35%	5.36%
United Kingdom	6.11%	6.11%	-0.84%	14.59%	2.98%	3.43%
Germany	14.69%	14.69%	2.24%	12.76%	0.40%	4.06%
France	14.62%	14.62%	8.79%	19.48%	6.20%	7.54%
Pacific	4.71%	4.71%	-6.01%	9.49%	2.02%	4.40%
Japan	6.19%	6.19%	-5.23%	7.39%	1.27%	5.03%
Hong Kong	-2.39%	-2.39%	-5.27%	4.59%	-0.50%	4.16%
Australia	2.79%	2.79%	-9.19%	20.18%	5.96%	3.36%
Canada	4.31%	4.31%	-13.09%	18.50%	6.56%	4.02%
MSCI EM	3.96%	3.96%	-10.70%	7.83%	-0.91%	2.00%
MSCI EM Latin America	3.93%	3.93%	-11.05%	18.15%	-1.84%	-1.86%
MSCI EM Asia	4.81%	4.81%	-9.44%	7.15%	0.15%	4.18%
MSCI EM Eur/Mid East	-1.23%	-1.23%	-16.64%	1.96%	-4.65%	-3.88%
MSCI ACWI Value ex-US	5.16%	5.16%	-4.00%	13.82%	1.26%	3.06%
MSCI ACWI Growth ex-US	8.59%	8.59%	-6.35%	9.49%	3.36%	5.08%
MSCI ACWI Sm Cap ex-US	4.70%	4.70%	-10.37%	15.04%	1.67%	5.06%

## Foreign Currency v. US\$ Returns

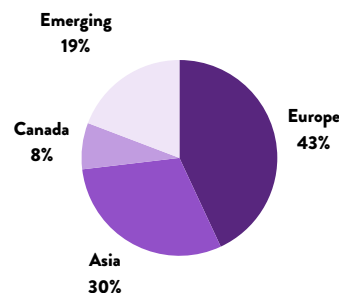


Exchange Rates	QTR	4Q22	3Q22	2Q22	1Q22	4Q21
Japanese Yen	132.75	131.81	144.71	135.69	121.44	115.17
Euro	0.92	0.93	1.02	0.96	0.90	0.88
British Pound	0.81	0.83	0.90	0.82	0.76	0.74
Swiss Franc	0.91	0.92	0.98	0.96	0.92	0.91
Chinese Yuan	6.87	6.90	7.11	6.70	6.34	6.37

Source: Federal Reserve Bank of St. Louis

## Regional Exposure

MSCI ACWI ex-USA



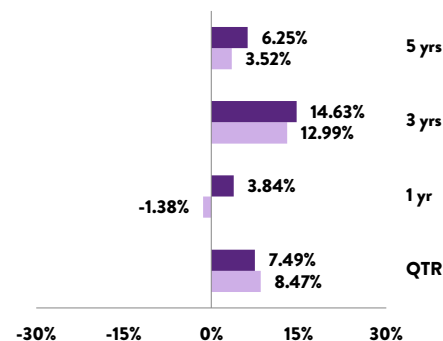
## Top 10 Countries (MSCI AC World ex-USA)

Japan	14%
UK	10%
China	9%
France	8%
Canada	8%
Switzerland	6%
Germany	6%
Australia	5%
Taiwan	4%
India	4%

Source: Morningstar

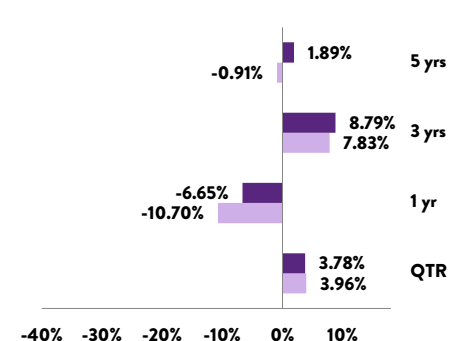
## MSCI EAFE Index Return

Local US\$



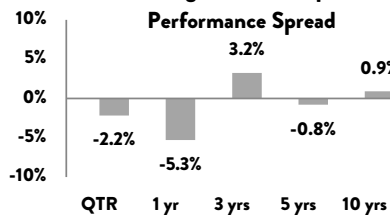
## MSCI Emerging Index Return

Local US\$



## MSCI ACWI Ex US Large v. Small Cap Performance Spread

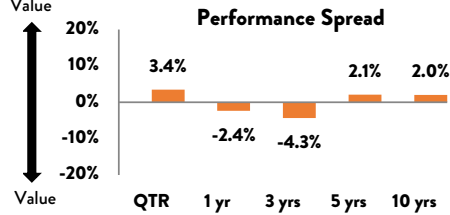
Small Beating Large  
Large Beating Small



Performance Source: Morningstar

## MSCI ACWI Ex US Value v. Growth Performance Spread

Growth Beating Value  
Value Beating Growth



## Historical Market Returns

Ranked by Performance

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD	1Q23
US Bonds 5.24%	Emerging Markets 78.51%	Small Cap 26.85%	Core Real Estate 14.96%	Emerging Markets 18.22%	Small Cap 38.82%	Large Cap 13.68%	Core Real Estate 13.95%	Small Cap 21.30%	Emerging Markets 37.28%	Core Real Estate 7.36%	Large Cap 31.49%	Small Cap 19.96%	Large Cap 28.71%	Commod. 16.09%	Large Cap 7.50%	Large Cap 7.50%
Global Bonds 4.79%	High Yield 58.21%	Mid Cap 25.48%	TIPS 13.56%	Mid Cap 17.28%	Mid Cap 34.76%	Mid Cap 13.21%	Large Cap 1.38%	High Yield 17.12%	Intl 27.19%	Cash 1.69%	Mid Cap 30.54%	Large Cap 18.40%	Commod. 27.11%	Core Real Estate 6.54%	Intl 6.87%	Intl 6.87%
Cash 1.39%	Intl 41.45%	Emerging Markets 18.88%	US Bonds 7.84%	Intl 16.83%	Large Cap 32.39%	Core Real Estate 11.44%	US Bonds 0.55%	Mid Cap 13.79%	Large Cap 21.83%	US Bonds 0.01%	Small Cap 25.52%	Emerging Markets 18.31%	Mid Cap 22.58%	Cash 2.05%	Global Balanced 5.75%	Global Balanced 5.75%
TIPS -2.35%	Mid Cap 40.48%	Commod. 16.83%	Global Bonds 5.64%	Small Cap 16.35%	Intl 15.29%	US Bonds 5.97%	Cash 0.03%	Large Cap 11.95%	Mid Cap 18.52%	Global Bonds -1.20%	Intl 21.51%	Mid Cap 17.10%	Core Real Estate 21.06%	High Yield -11.19%	Mid Cap 4.06%	Mid Cap 4.06%
Core Real Estate -10.70%	Small Cap 27.17%	Core Real Estate 15.26%	High Yield 4.98%	Large Cap 16.00%	Global Balanced 14.46%	Small Cap 4.89%	TIPS -1.43%	Commod. 11.76%	Global Balanced 15.87%	TIPS -1.26%	Global Balanced 18.86%	Global Balanced 13.93%	Small Cap 14.82%	TIPS -11.85%	Emerging Markets 3.96%	Emerging Markets 3.96%
Global Balanced -24.51%	Large Cap 26.46%	High Yield 15.12%	Large Cap 2.11%	High Yield 15.81%	Core Real Estate 12.95%	TIPS 3.64%	Global Balanced -1.45%	Emerging Markets 11.18%	Small Cap 14.65%	High Yield -2.08%	Emerging Markets 18.42%	TIPS 10.99%	Global Balanced 10.94%	US Bonds -13.01%	High Yield 3.57%	High Yield 3.57%
High Yield -26.16%	Global Balanced 20.49%	Large Cap 15.06%	Cash 0.06%	Global Balanced 11.06%	High Yield 7.44%	Global Balanced 3.17%	Mid Cap -2.43%	Core Real Estate 7.76%	High Yield 7.50%	Large Cap -4.38%	High Yield 14.32%	Intl 10.65%	Intl 7.82%	Intl -16.00%	TIPS 3.34%	TIPS 3.34%
Small Cap -33.79%	Commod. 18.91%	Intl 11.15%	Global Balanced -0.97%	Core Real Estate 9.76%	Cash 0.07%	High Yield 2.45%	Global Bonds -3.15%	Global Balanced 5.38%	Global Bonds 7.39%	Global Balanced -5.30%	US Bonds 8.72%	Global Bonds 9.20%	TIPS 5.96%	Global Bonds -16.25%	Global Bonds 3.01%	Global Bonds 3.01%
Commod. -35.65%	TIPS 11.41%	Global Balanced 9.40%	Mid Cap -1.55%	TIPS 6.98%	US Bonds -2.02%	Global Bonds 0.59%	Small Cap -4.41%	TIPS 4.68%	Core Real Estate 6.66%	Mid Cap -9.06%	TIPS 8.43%	US Bonds 7.51%	High Yield 5.28%	Global Balanced -16.40%	US Bonds 2.96%	US Bonds 2.96%
Large Cap -37.00%	Global Bonds 6.93%	US Bonds 6.54%	Small Cap -4.18%	Global Bonds 4.32%	Global Bonds -2.60%	Cash 0.04%	High Yield -4.46%	Intl 4.50%	US Bonds 3.54%	Small Cap -11.01%	Commod. 7.69%	High Yield 7.11%	Cash 0.05%	Mid Cap -17.32%	Small Cap 2.74%	Small Cap 2.74%
Mid Cap -41.46%	US Bonds 5.93%	TIPS 6.31%	Commod. -13.32%	US Bonds 4.21%	Emerging Markets -2.60%	Emerging Markets -2.18%	Intl -5.66%	US Bonds 2.65%	TIPS 3.01%	Commod. -11.25%	Global Bonds 6.84%	Cash 0.37%	US Bonds -1.54%	Large Cap -18.11%	Cash 1.16%	Cash 1.16%
Intl -45.53%	Cash 0.16%	Global Bonds 5.54%	Intl -13.71%	Cash 0.08%	TIPS -8.61%	Intl -3.86%	Emerging Markets -14.90%	Global Bonds 2.09%	Commod. 1.70%	Intl -14.20%	Core Real Estate 4.41%	Core Real Estate 0.35%	Emerging Markets -2.54%	Emerging Markets -20.09%	Core Real Estate -3.33%	Core Real Estate -3.33%
Emerging Markets -53.33%	Core Real Estate -30.40%	Cash 0.15%	Emerging Markets -18.42%	Commod. -1.06%	Commod. -9.52%	Commod. -17.00%	Commod. -24.60%	Cash 0.25%	Cash 0.71%	Emerging Markets -14.58%	Cash 2.30%	Commod. -3.12%	Global Bonds -4.71%	Small Cap -20.44%	Commod. -5.36%	Commod. -5.36%

Global Balanced is composed of 60% MSCI World Stock Index, 35% BBgBarc Global Aggregate Bond Index, and 5% US 90-Day T-Bills.

Source: Morningstar; Core Real Estate Source: NCREIF

## **Section 2 | Plan Overview**

As of March 31, 2023

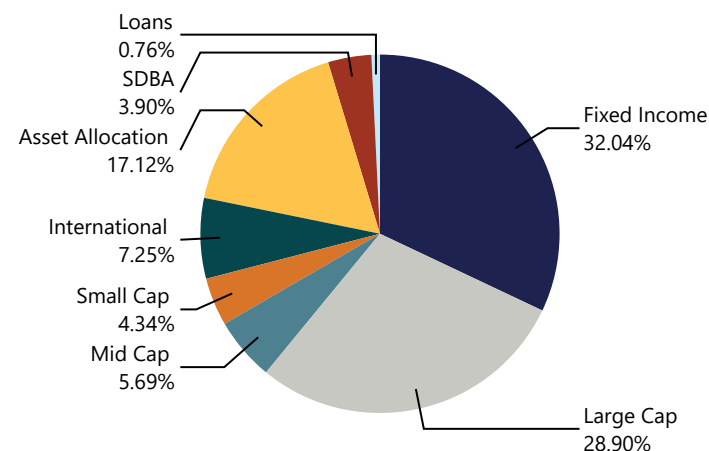
### Hyas Group Contact

Vincent Galindo  
Senior Principal  
vgalindo@hyasgroup.com

**Market Value: \$219,903,097**

### Plan Notes

Fund: None at this time.  
Governance: None at this time.  
Vendor Mgmt: None at this time.



### Fund Notes

Fund Name	Watch Status	Cause	Comments	Recommendations	Fund Assets (\$)	Allocation (%)
Hotchkis & Wiley High Yield Z	4Q19	Performance	Trailing Benchmark and Peer Group for 5 year period. Sharpe ratio trailing median for 5 year period.		1,535,084	0.70
DFA US Large Cap Value I	4Q19	Performance	Trailing Benchmark and Peer Group for 5 year period. Sharpe ratio trailing median for 5 year period.		8,022,772	3.65
T. Rowe Price Large Cap Growth I			Trailing Benchmark and Peer Group for 5 year period.		17,269,354	7.85

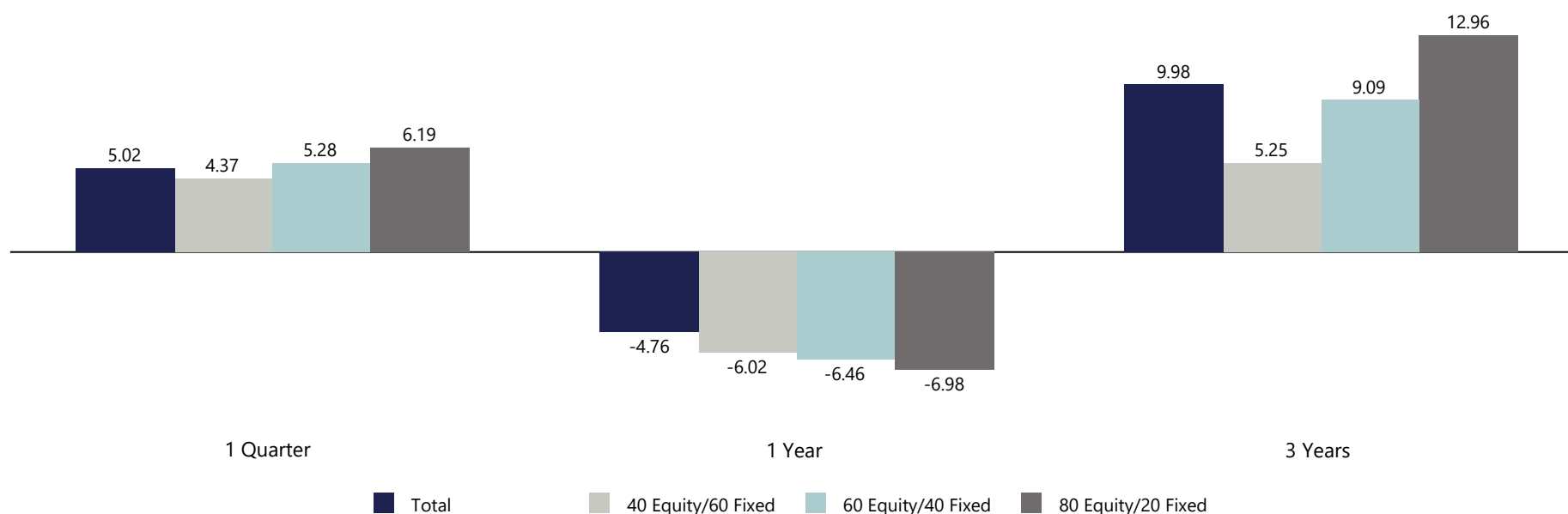
## **Section 3 | Plan Review**

As of March 31, 2023

### Cash Flow Summary

	Beg Value (%) of the Plan	Beg Value \$	Cash Flow (+/-)	Gain/Loss	End Value (%) of the Plan	End Value \$
<b>Total</b>	<b>100.00</b>	<b>198,650,470</b>	<b>1,008,922</b>	<b>9,981,934</b>	<b>100.00</b>	<b>209,641,325</b>
Fixed Income	35.17	69,860,126	(117,731)	706,315	33.60	70,448,710
Large Cap	29.16	57,922,605	800,002	4,823,730	30.31	63,546,337
Mid Cap	6.03	11,971,657	(107,939)	653,201	5.97	12,516,918
Small Cap	4.43	8,804,140	410,632	326,146	4.55	9,540,919
International	7.50	14,906,719	(375,555)	1,415,834	7.61	15,946,999
Asset Allocation	17.71	35,185,222	399,512	2,056,708	17.96	37,641,442

### Plan Returns



Equity Indices: Russell 3000, MSCI ACWI ex USA; Fixed Indices: US Treasury 3 Mo T-Bill, Bloomberg Global Aggregate Bond (rebalanced quarterly).



# City of Santa Clara | 457 Deferred Compensation Plan

## Plan Review

As of March 31, 2023

	Asset-ID	Beg Balance \$	Cash Flow (+/-)	Gain/Loss	End Balance	Alloc %
<b>Fixed Income</b>		69,860,126	(117,731)	706,315	70,448,710	33.60
Nationwide Fixed Fund		62,329,404	(643,971)	456,294	62,141,727	29.64
Fidelity US Bond Index	FXNAX	2,471,481	225,092	79,637	2,776,210	1.32
Sterling Capital Total Return Bond R6	STRDX	3,643,656	238,387	113,646	3,995,689	1.91
Hotchkis & Wiley High Yield Z	HWHZX	1,415,585	62,761	56,738	1,535,084	0.73
<b>Large Cap</b>		57,922,605	800,002	4,823,730	63,546,337	30.31
DFA US Large Cap Value I	DFLVX	8,080,316	(93,008)	35,464	8,022,772	3.83
Fidelity 500 Index	FXAIX	34,402,962	1,230,232	2,621,017	38,254,211	18.25
T. Rowe Price Large Cap Growth I	TRLGX	15,439,327	(337,222)	2,167,249	17,269,354	8.24
<b>Mid Cap</b>		11,971,657	(107,939)	653,201	12,516,918	5.97
MFS Mid Cap Value R6	MVCKX	2,041,837	69,904	5,877	2,117,619	1.01
Fidelity Mid Cap Index	FSMDX	3,273,435	(155,842)	133,169	3,250,762	1.55
JPMorgan Mid Cap Growth R6	JMGMX	6,656,385	(22,001)	514,154	7,148,538	3.41
<b>Small Cap</b>		8,804,140	410,632	326,146	9,540,919	4.55
DFA US Targeted Value I	DFFVX	4,003,056	23,428	40,347	4,066,831	1.94
Fidelity Small Cap Index	FSSNX	1,889,802	119,077	49,905	2,058,783	0.98
Vanguard Small Growth Index Adm	VSGAX	2,911,282	268,127	235,895	3,415,305	1.63
<b>International</b>		14,906,719	(375,555)	1,415,834	15,946,999	7.61
Vanguard International Value Inv	VTIRX	3,477,463	(86,173)	296,927	3,688,217	1.76
Fidelity Total International Index	FTIHX	5,156,053	(130,065)	344,957	5,370,946	2.56
Vanguard International Growth Adm	VWILX	6,273,203	(159,317)	773,950	6,887,837	3.29
<b>Asset Allocation</b>		35,185,222	399,512	2,056,708	37,641,442	17.96
Vanguard Target Retirement Income	VTINX	1,544,413	(169,866)	63,831	1,438,378	0.69
Vanguard Target Retirement 2025	VTTVX	12,772,831	(131,676)	668,926	13,310,081	6.35
Vanguard Target Retirement 2030	VTHRX	1,090,113	32,246	62,485	1,184,844	0.57
Vanguard Target Retirement 2035	VTTHX	7,007,213	185,901	419,739	7,612,853	3.63
Vanguard Target Retirement 2040	VFORX	1,027,053	73,298	65,152	1,165,503	0.56
Vanguard Target Retirement 2045	VTIVX	8,356,134	215,433	545,232	9,116,799	4.35

## City of Santa Clara | 457 Deferred Compensation Plan

## Plan Review

As of March 31, 2023

	Asset-ID	Beg Balance \$	Cash Flow (+/-)	Gain/Loss	End Balance	Alloc %
Vanguard Target Retirement 2050	VFIFX	1,020,792	76,446	69,311	1,166,549	0.56
Vanguard Target Retirement 2055	VFFVX	1,882,228	90,756	129,313	2,102,298	1.00
Vanguard Target Retirement 2060	VTTSX	481,701	26,524	32,527	540,752	0.26
Vanguard Target Retirement 2065	VLXVX	2,745	450	191	3,386	0.00
Vanguard Target Retirement 2070	VSVNX					0.00
Total		198,650,470	1,008,922	9,981,934	209,641,325	100.00

As of March 31, 2023

**Asset Allocation**

	Jun-2022		Sep-2022		Dec-2022		Mar-2023	
	Ending Market Value \$	Ending Market Value %	Ending Market Value \$	Ending Market Value %	Ending Market Value \$	Ending Market Value %	Ending Market Value \$	Ending Market Value %
Fixed Income	68,753,074	35.53	69,207,209	36.78	69,860,126	35.17	70,448,710	33.60
Large Cap	56,206,954	29.05	53,655,612	28.51	57,922,605	29.16	63,546,337	30.31
Mid Cap	11,489,808	5.94	11,143,093	5.92	11,971,657	6.03	12,516,918	5.97
Small Cap	8,520,016	4.40	8,276,979	4.40	8,804,140	4.43	9,540,919	4.55
International	14,325,839	7.40	13,151,973	6.99	14,906,719	7.50	15,946,999	7.61
Asset Allocation	34,202,674	17.68	32,734,545	17.40	35,185,222	17.71	37,641,442	17.96
Total	193,498,365	100.00	188,169,411	100.00	198,650,470	100.00	209,641,325	100.00

**Cash Flow Summary**

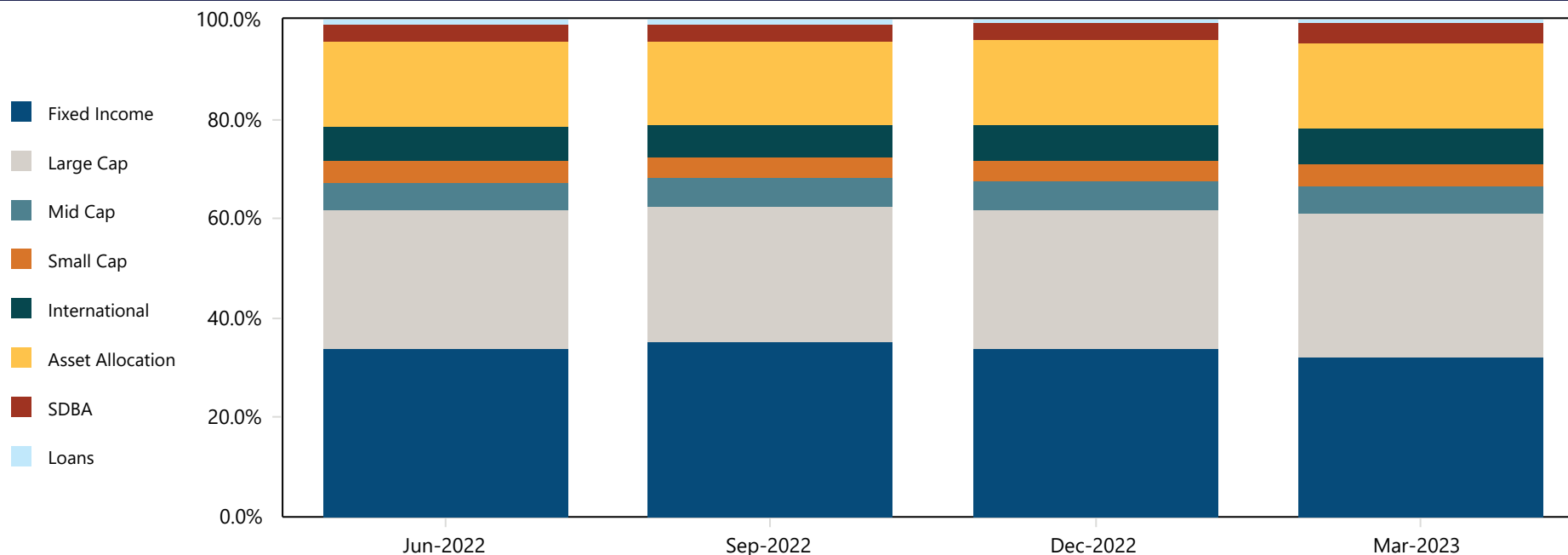
	Jun-2022	Sep-2022	Dec-2022	Mar-2023
Participants	1,337	1,348	1,354	1,355
Calculated Return (%)	(10.84)	(3.30)	5.18	5.02
Cash Flow (+/-) \$	1,010,689	1,049,828	741,746	1,008,922
Market Adjustment \$	(23,409,907)	(6,378,783)	9,739,313	9,981,934

**Fee Summary**

	Jun-2022		Sep-2022		Dec-2022		Mar-2023	
	Current %	Est Asset \$	Current %	Est Asset \$	Current %	Est Asset \$	Current %	Est Asset \$
Record Keeper Fees	0.020	38,700	0.020	37,634	0.020	39,730	0.020	41,928
Weighted Investment Fees	0.264	510,421	0.267	501,553	0.261	518,316	0.258	541,387

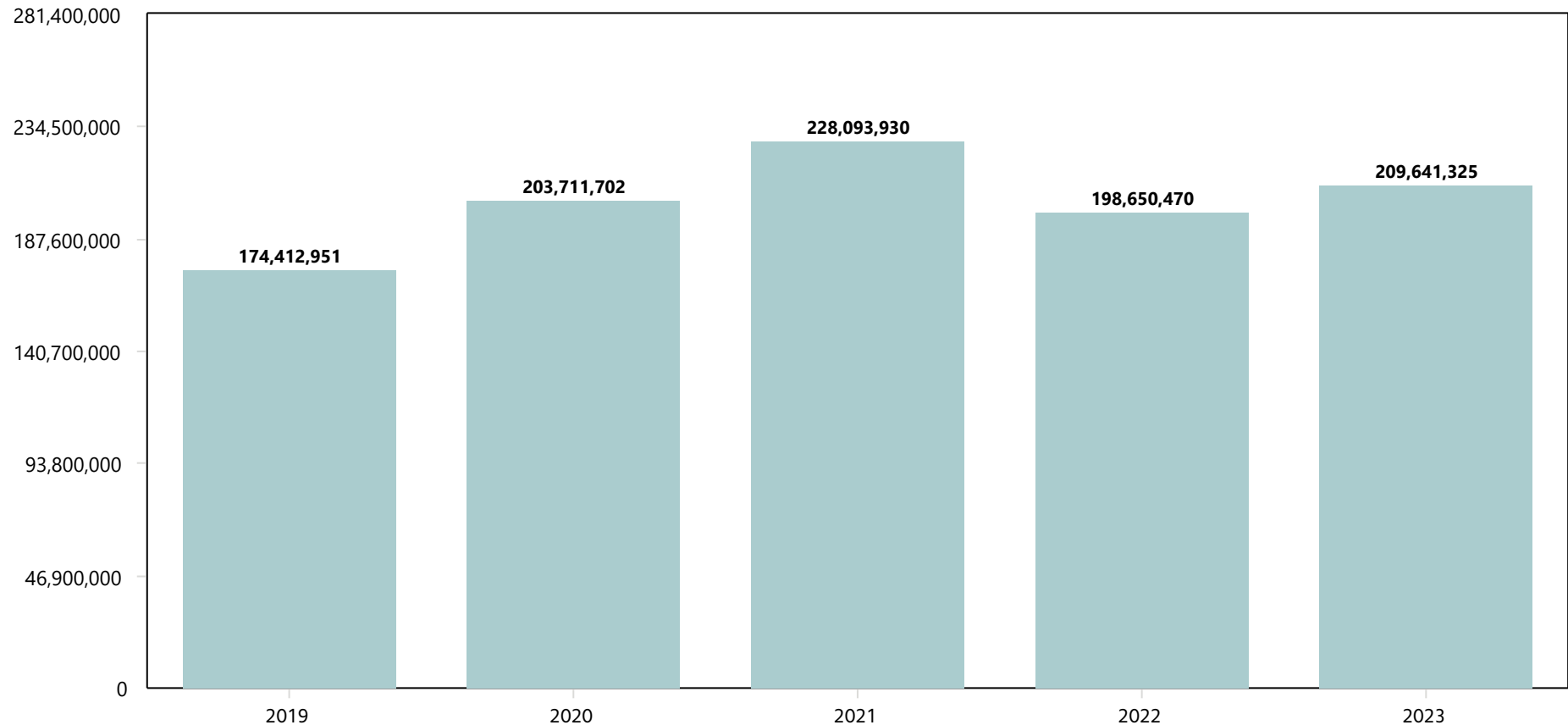
As of March 31, 2023

### Historical Asset Allocation



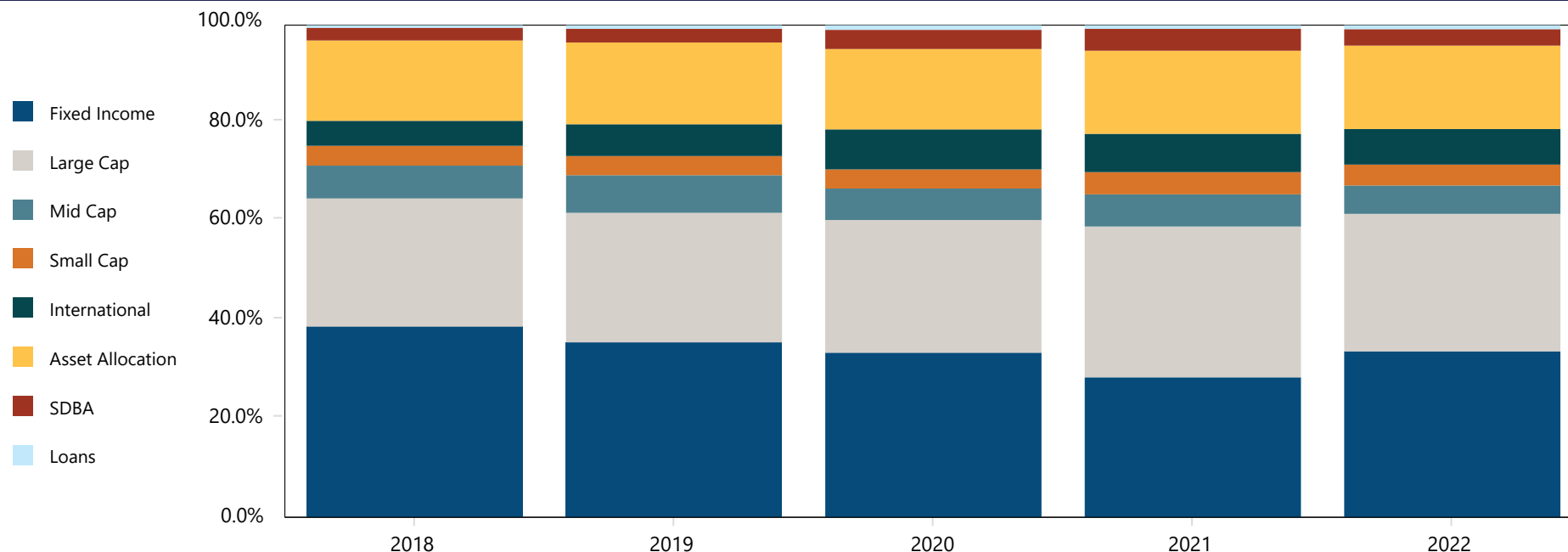
	Jun-2022		Sep-2022		Dec-2022		Mar-2023	
	Ending Value \$	Ending Value %	Ending Value \$	Ending Value %	Ending Value \$	Ending Value %	Ending Value \$	Ending Value %
Fixed Income	68,753,074	33.9	69,207,209	35.2	69,860,126	33.7	70,448,710	32.0
Large Cap	56,206,954	27.7	53,655,612	27.3	57,922,605	27.9	63,546,337	28.9
Mid Cap	11,489,808	5.7	11,143,093	5.7	11,971,657	5.8	12,516,918	5.7
Small Cap	8,520,016	4.2	8,276,979	4.2	8,804,140	4.2	9,540,919	4.3
International	14,325,839	7.1	13,151,973	6.7	14,906,719	7.2	15,946,999	7.3
Asset Allocation	34,202,674	16.9	32,734,545	16.6	35,185,222	17.0	37,641,442	17.1
SDBA	7,283,785	3.6	6,795,198	3.5	6,861,670	3.3	8,584,057	3.9
Loans	1,878,788	0.9	1,811,054	0.9	1,734,203	0.8	1,677,714	0.8
<b>Total</b>	<b>202,660,938</b>	<b>100.0</b>	<b>196,775,663</b>	<b>100.0</b>	<b>207,246,343</b>	<b>100.0</b>	<b>219,903,097</b>	<b>100.0</b>

## Plan Value Over Time



	2019	2020	2021	2022	2023
Beginning Market Value \$	150,093,203	174,412,951	203,711,702	228,093,930	198,650,470
Cash Flow (+/-) \$	(2,185,094)	3,320,382	(1,066,724)	2,016,434	1,008,922
Market Adjustment \$	26,504,842	25,978,370	25,448,953	(31,459,895)	9,981,934
Ending Market Value \$	174,412,951	203,711,702	228,093,930	198,650,470	209,641,325
Participants	1,278	1,312	1,323	1,354	1,355

### Historical Asset Allocation



	Dec-2018		Dec-2019		Dec-2020		Dec-2021		Dec-2022	
	Ending Value \$	Ending Value %	Ending Value \$	Ending Value %	Ending Value \$	Ending Value %	Ending Value \$	Ending Value %	Ending Value \$	Ending Value %
Fixed Income	58,429,603	38.7	64,223,266	35.5	71,557,663	33.4	68,464,314	28.5	69,860,126	33.7
Large Cap	39,362,539	26.1	47,604,651	26.3	57,744,853	27.0	73,594,484	30.6	57,922,605	27.9
Mid Cap	10,042,648	6.7	13,890,428	7.7	13,797,623	6.4	15,716,450	6.5	11,971,657	5.8
Small Cap	6,113,551	4.1	6,991,789	3.9	8,317,744	3.9	10,939,582	4.5	8,804,140	4.2
International	7,660,460	5.1	11,694,003	6.5	17,376,817	8.1	18,734,126	7.8	14,906,719	7.2
Asset Allocation	24,644,645	16.3	30,008,815	16.6	34,917,002	16.3	40,644,974	16.9	35,185,222	17.0
SDBA	3,860,847	2.6	5,135,442	2.8	8,326,880	3.9	10,578,370	4.4	6,861,670	3.3
Loans	803,272	0.5	1,300,959	0.7	2,075,411	1.0	1,850,396	0.8	1,734,203	0.8
<b>Total</b>	<b>150,917,564</b>	<b>100.0</b>	<b>180,849,352</b>	<b>100.0</b>	<b>214,113,993</b>	<b>100.0</b>	<b>240,522,696</b>	<b>100.0</b>	<b>207,246,343</b>	<b>100.0</b>

## **Section 4 | Fund Review**

As of March 31, 2023

Fund Name	Asset-ID	Mgmt	5 Year Return Difference	5 Year Rank	Qualitative Factors	Quantitative Factors
Nationwide Fixed Fund		Active	-	-	●	-
Sterling Capital Total Return Bond R6	STRDX	Active	0.46	12	●	●
Hotchkis & Wiley High Yield Z	HWHZX	Active	-1.08	71	●	●
DFA US Large Cap Value I	DFLVX	Active	-1.03	79	●	●
T. Rowe Price Large Cap Growth I	TRLGX	Active	-3.47	55	●	●
MFS Mid Cap Value R6	MVCKX	Active	1.76	18	●	●
JPMorgan Mid Cap Growth R6	JMGMX	Active	1.66	11	●	●
DFA US Targeted Value I	DFFVX	Active	3.18	17	●	●
Vanguard International Value Inv	VTIRX	Active	1.93	24	●	●
Vanguard International Growth Adm	VWILX	Active	3.18	10	●	●



## City of Santa Clara | 457 Deferred Compensation Plan

## Manager Scorecard

As of March 31, 2023

Fund Name	Asset-ID	Mgmt	Expense Ratio	5 Year Return Difference	5 Year Rank	Qualitative Factors	Quantitative Factors
Fidelity US Bond Index	FXNAX	Passive	0.03	-0.02	41	●	●
Fidelity 500 Index	FXAIX	Passive	0.02	-0.01	16	●	●
Fidelity Mid Cap Index	FSMDX	Passive	0.03	0.01	29	●	●
Fidelity Small Cap Index	FSSNX	Passive	0.03	0.10	68	●	●
Vanguard Small Growth Index Adm	VSGAX	Passive	0.07	0.01	59	●	●
Fidelity Total International Index	FTIHX	Passive	0.06	0.02	67	●	●
Vanguard Target Retirement Income	VTINX	Passive	0.08	-0.27	29	●	●
Vanguard Target Retirement 2025	VTTVX	Passive	0.08	-0.44	27	●	●
Vanguard Target Retirement 2030	VTHRX	Passive	0.08	-0.44	33	●	●
Vanguard Target Retirement 2035	VTTHX	Passive	0.08	-0.44	38	●	●
Vanguard Target Retirement 2040	VFORX	Passive	0.08	-0.43	32	●	●
Vanguard Target Retirement 2045	VTIVX	Passive	0.08	-0.42	25	●	●
Vanguard Target Retirement 2050	VFIFX	Passive	0.08	-0.42	25	●	●
Vanguard Target Retirement 2055	VFFVX	Passive	0.08	-0.43	28	●	●
Vanguard Target Retirement 2060	VTTSX	Passive	0.08	-0.43	27	●	●
Vanguard Target Retirement 2065	VLXVX	Passive	0.08	-0.44	26	●	●
Vanguard Target Retirement 2070	VSVNX	Passive	0.08	-	-	-	-

As of March 31, 2023

## Performance Review

	Performance (%)										
	QTR	1 Yr	3 Yr	5 Yr	10 Yr	2022	2021	2020	2019	2018	2017
Nationwide Fixed Fund	0.74	3.00	3.17	-	-	3.00	3.13	3.50	3.50	-	-
US T-Bill CMT 5 Year	0.94	3.49	1.68	1.88	1.75	3.00	0.85	0.54	1.96	2.75	1.91
+/- Index	(0.20)	(0.49)	1.49	-	-	0.00	2.28	2.96	1.54	-	-
Fidelity US Bond Index	3.06	(4.78)	(2.91)	0.89	1.32	(13.03)	(1.79)	7.80	8.48	0.01	3.50
Blmbg. U.S. Aggregate Index	2.96	(4.78)	(2.77)	0.90	1.36	(13.01)	(1.55)	7.51	8.72	0.01	3.54
+/- Index	0.10	0.00	(0.14)	(0.01)	(0.04)	(0.02)	(0.24)	0.29	(0.24)	0.00	(0.04)
Intermediate Core Bond Rank	57	30	82	41	44	30	64	50	50	27	45
Sterling Capital Total Return Bond R6	3.01	(4.68)	(1.34)	1.36	1.85	(13.15)	(1.12)	9.35	9.37	(0.27)	4.33
Blmbg. U.S. Aggregate Index	2.96	(4.78)	(2.77)	0.90	1.36	(13.01)	(1.55)	7.51	8.72	0.01	3.54
+/- Index	0.05	0.10	1.43	0.46	0.49	(0.14)	0.43	1.84	0.65	(0.28)	0.79
Intermediate Core Bond Rank	60	25	14	12	7	35	26	16	17	42	12
Hotchkis & Wiley High Yield Z	3.90	(2.91)	7.90	2.13	3.52	(9.69)	6.83	3.83	9.77	(3.34)	8.24
Blmbg. U.S. Corp: High Yield Index	3.57	(3.34)	5.91	3.21	4.10	(11.19)	5.28	7.11	14.32	(2.08)	7.50
+/- Index	0.33	0.43	1.99	(1.08)	(0.58)	1.50	1.55	(3.28)	(4.55)	(1.26)	0.74
High Yield Bond Rank	11	34	7	71	38	30	12	75	87	65	13
DFA US Large Cap Value I	0.46	(5.00)	20.73	6.46	9.51	(5.78)	28.07	(0.61)	25.45	(11.65)	18.97
Russell 1000 Value Index	1.01	(5.91)	17.93	7.50	9.13	(7.54)	25.16	2.80	26.54	(8.27)	13.66
+/- Index	(0.55)	0.91	2.80	(1.04)	0.38	1.76	2.91	(3.41)	(1.09)	(3.38)	5.31
Large Value Rank	44	50	27	79	33	53	29	80	51	82	21
Fidelity 500 Index	7.50	(7.74)	18.59	11.18	12.23	(18.13)	28.69	18.40	31.47	(4.40)	21.81
S&P 500 Index	7.50	(7.73)	18.60	11.19	12.24	(18.11)	28.71	18.40	31.49	(4.38)	21.83
+/- Index	0.00	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	0.00	(0.02)	(0.02)	(0.02)
Large Blend Rank	20	53	26	16	10	51	22	36	23	25	33

# City of Santa Clara | 457 Deferred Compensation Plan

## Plan Review

As of March 31, 2023

	Performance (%)										
	QTR	1 Yr	3 Yr	5 Yr	10 Yr	2022	2021	2020	2019	2018	2017
T. Rowe Price Large Cap Growth I	14.18	(14.69)	13.89	10.19	14.45	(35.18)	23.18	39.56	28.49	4.32	37.82
Russell 1000 Growth Index	14.37	(10.90)	18.58	13.66	14.59	(29.14)	27.60	38.49	36.39	(1.51)	30.21
+/- Index	(0.19)	(3.79)	(4.69)	(3.47)	(0.14)	(6.04)	(4.42)	1.07	(7.90)	5.83	7.61
Large Growth Rank	34	71	61	55	9	77	40	34	84	8	4
MFS Mid Cap Value R6	0.60	(5.70)	22.03	8.30	9.66	(8.64)	31.00	4.40	31.08	(11.31)	13.84
Russell Midcap Value Index	1.32	(9.22)	20.69	6.54	8.80	(12.03)	28.34	4.96	27.06	(12.29)	13.34
+/- Index	(0.72)	3.52	1.34	1.76	0.86	3.39	2.66	(0.56)	4.02	0.98	0.50
Mid-Cap Value Rank	68	40	46	18	12	57	29	36	9	24	45
Fidelity Mid Cap Index	4.05	(8.74)	19.19	8.06	10.05	(17.28)	22.56	17.11	30.51	(9.05)	18.47
Russell Midcap Index	4.06	(8.78)	19.20	8.05	10.05	(17.32)	22.58	17.10	30.54	(9.06)	18.52
+/- Index	(0.01)	0.04	(0.01)	0.01	0.00	0.04	(0.02)	0.01	(0.03)	0.01	(0.05)
Mid-Cap Blend Rank	37	67	51	29	16	69	62	26	24	27	28
JPMorgan Mid Cap Growth R6	7.76	(10.80)	15.39	10.73	12.67	(26.96)	10.99	48.51	39.96	(4.97)	29.72
Russell Midcap Growth Index	9.14	(8.52)	15.20	9.07	11.17	(26.72)	12.73	35.59	35.47	(4.75)	25.27
+/- Index	(1.38)	(2.28)	0.19	1.66	1.50	(0.24)	(1.74)	12.92	4.49	(0.22)	4.45
Mid-Cap Growth Rank	50	49	39	11	9	40	59	25	9	43	15
DFA US Targeted Value I	0.96	(3.59)	31.63	7.72	9.16	(4.62)	38.80	3.77	21.47	(15.78)	9.59
Russell 2000 Value Index	(0.66)	(12.96)	21.01	4.55	7.22	(14.48)	28.27	4.63	22.39	(12.86)	7.84
+/- Index	1.62	9.37	10.62	3.17	1.94	9.86	10.53	(0.86)	(0.92)	(2.92)	1.75
Small Value Rank	55	17	11	17	16	12	9	46	55	56	48
Fidelity Small Cap Index	2.81	(11.41)	17.60	4.81	8.20	(20.27)	14.71	19.99	25.71	(10.88)	14.85
Russell 2000 Index	2.74	(11.61)	17.51	4.71	8.04	(20.44)	14.82	19.96	25.53	(11.01)	14.65
+/- Index	0.07	0.20	0.09	0.10	0.16	0.17	(0.11)	0.03	0.18	0.13	0.20
Small Blend Rank	54	80	80	68	50	81	90	14	34	34	26

# City of Santa Clara | 457 Deferred Compensation Plan

## Plan Review

As of March 31, 2023

	Performance (%)										
	QTR	1 Yr	3 Yr	5 Yr	10 Yr	2022	2021	2020	2019	2018	2017
Vanguard Small Growth Index Adm	8.18	(12.03)	13.49	6.32	8.85	(28.39)	5.70	35.28	32.76	(5.68)	21.92
Vanguard Spliced Small Cap Growth Index (Net)	8.14	(12.11)	13.46	6.31	8.80	(28.44)	5.71	35.35	32.75	(5.68)	21.90
+/- Index	0.04	0.08	0.03	0.01	0.05	0.05	(0.01)	(0.07)	0.01	0.00	0.02
Small Growth Rank	23	53	66	59	65	52	67	58	35	56	51
Vanguard International Value Inv	8.67	1.16	15.30	3.19	4.96	(11.66)	7.97	8.99	20.39	(14.52)	27.96
MSCI AC World ex USA Value (Net)	5.16	(4.00)	13.82	1.26	3.06	(8.59)	10.46	(0.77)	15.72	(13.97)	22.66
+/- Index	3.51	5.16	1.48	1.93	1.90	(3.07)	(2.49)	9.76	4.67	(0.55)	5.30
Foreign Large Value Rank	26	38	44	24	23	72	87	6	30	29	9
Fidelity Total International Index	6.75	(4.71)	12.39	2.37	-	(16.28)	8.47	11.07	21.48	(14.38)	27.63
MSCI AC World ex USA IMI (Net)	6.56	(5.84)	12.20	2.35	4.28	(16.58)	8.53	11.12	21.63	(14.76)	27.81
+/- Index	0.19	1.13	0.19	0.02	-	0.30	(0.06)	(0.05)	(0.15)	0.38	(0.18)
Foreign Large Blend Rank	79	82	62	67	-	57	68	41	61	41	26
Vanguard International Growth Adm	12.50	(6.81)	13.48	6.54	8.79	(30.79)	(0.74)	59.74	31.48	(12.58)	43.16
MSCI AC World ex USA Growth (Net)	8.59	(6.35)	9.49	3.36	5.08	(23.05)	5.09	22.20	27.34	(14.43)	32.01
+/- Index	3.91	(0.46)	3.99	3.18	3.71	(7.74)	(5.83)	37.54	4.14	1.85	11.15
Foreign Large Growth Rank	14	68	8	10	5	82	89	3	22	34	7
Vanguard Target Retirement Income	4.23	(4.50)	3.83	3.26	3.79	(12.74)	5.25	10.02	13.16	(1.99)	8.47
Vanguard Target Income Composite Index (Net)	4.13	(4.45)	4.06	3.53	4.03	(12.44)	5.44	10.70	13.41	(1.97)	8.68
+/- Index	0.10	(0.05)	(0.23)	(0.27)	(0.24)	(0.30)	(0.19)	(0.68)	(0.25)	(0.02)	(0.21)
Target-Date Retirement Rank	34	31	51	29	29	50	64	27	47	14	53
Vanguard Target Retirement 2025	5.28	(5.91)	8.31	4.77	6.35	(15.55)	9.80	13.30	19.63	(5.15)	15.94
Vanguard Target 2025 Composite Index (Net)	5.21	(5.68)	8.68	5.21	6.68	(15.02)	10.09	14.19	19.93	(5.00)	16.08
+/- Index	0.07	(0.23)	(0.37)	(0.44)	(0.33)	(0.53)	(0.29)	(0.89)	(0.30)	(0.15)	(0.14)
Target-Date 2025 Rank	15	46	33	27	16	53	49	34	19	43	22

# City of Santa Clara | 457 Deferred Compensation Plan

## Plan Review

As of March 31, 2023

	Performance (%)										
	QTR	1 Yr	3 Yr	5 Yr	10 Yr	2022	2021	2020	2019	2018	2017
Vanguard Target Retirement 2030	5.67	(6.22)	9.67	5.21	6.89	(16.27)	11.38	14.10	21.07	(5.86)	17.52
Vanguard Target 2030 Composite Index (Net)	5.59	(6.00)	10.04	5.65	7.22	(15.71)	11.66	14.98	21.34	(5.72)	17.66
+/- Index	0.08	(0.22)	(0.37)	(0.44)	(0.33)	(0.56)	(0.28)	(0.88)	(0.27)	(0.14)	(0.14)
Target-Date 2030 Rank	17	40	45	33	23	47	54	34	32	34	35
Vanguard Target Retirement 2035	5.94	(6.36)	11.12	5.68	7.43	(16.62)	12.96	14.79	22.44	(6.58)	19.12
Vanguard Target 2035 Composite Index (Net)	5.87	(6.21)	11.48	6.11	7.76	(16.10)	13.24	15.67	22.76	(6.46)	19.25
+/- Index	0.07	(0.15)	(0.36)	(0.43)	(0.33)	(0.52)	(0.28)	(0.88)	(0.32)	(0.12)	(0.13)
Target-Date 2035 Rank	25	35	62	38	30	39	78	39	46	29	41
Vanguard Target Retirement 2040	6.21	(6.53)	12.58	6.12	7.91	(16.98)	14.56	15.47	23.86	(7.32)	20.71
Vanguard Target 2040 Composite Index (Net)	6.16	(6.43)	12.93	6.55	8.25	(16.51)	14.84	16.31	24.19	(7.22)	20.86
+/- Index	0.05	(0.10)	(0.35)	(0.43)	(0.34)	(0.47)	(0.28)	(0.84)	(0.33)	(0.10)	(0.15)
Target-Date 2040 Rank	34	33	64	32	25	34	80	38	44	31	27
Vanguard Target Retirement 2045	6.49	(6.70)	14.06	6.59	8.22	(17.36)	16.16	16.30	24.94	(7.90)	21.42
Vanguard Target 2045 Composite Index (Net)	6.44	(6.67)	14.38	7.01	8.56	(16.93)	16.45	17.02	25.37	(7.77)	21.55
+/- Index	0.05	(0.03)	(0.32)	(0.42)	(0.34)	(0.43)	(0.29)	(0.72)	(0.43)	(0.13)	(0.13)
Target-Date 2045 Rank	29	33	45	25	18	31	66	34	38	38	26
Vanguard Target Retirement 2050	6.64	(6.71)	14.17	6.66	8.26	(17.46)	16.41	16.39	24.98	(7.90)	21.39
Vanguard Target 2050 Composite Index (Net)	6.58	(6.71)	14.51	7.08	8.59	(17.07)	16.75	17.17	25.37	(7.77)	21.55
+/- Index	0.06	0.00	(0.34)	(0.42)	(0.33)	(0.39)	(0.34)	(0.78)	(0.39)	(0.13)	(0.16)
Target-Date 2050 Rank	25	28	45	25	20	29	70	34	41	33	33
Vanguard Target Retirement 2055	6.64	(6.67)	14.17	6.66	8.24	(17.46)	16.44	16.32	24.98	(7.89)	21.38
Vanguard Target 2055 Composite Index (Net)	6.58	(6.71)	14.51	7.08	8.59	(17.07)	16.75	17.17	25.37	(7.77)	21.55
+/- Index	0.06	0.04	(0.34)	(0.42)	(0.35)	(0.39)	(0.31)	(0.85)	(0.39)	(0.12)	(0.17)
Target-Date 2055 Rank	29	28	54	28	25	25	75	40	44	33	41

# City of Santa Clara | 457 Deferred Compensation Plan

## Plan Review

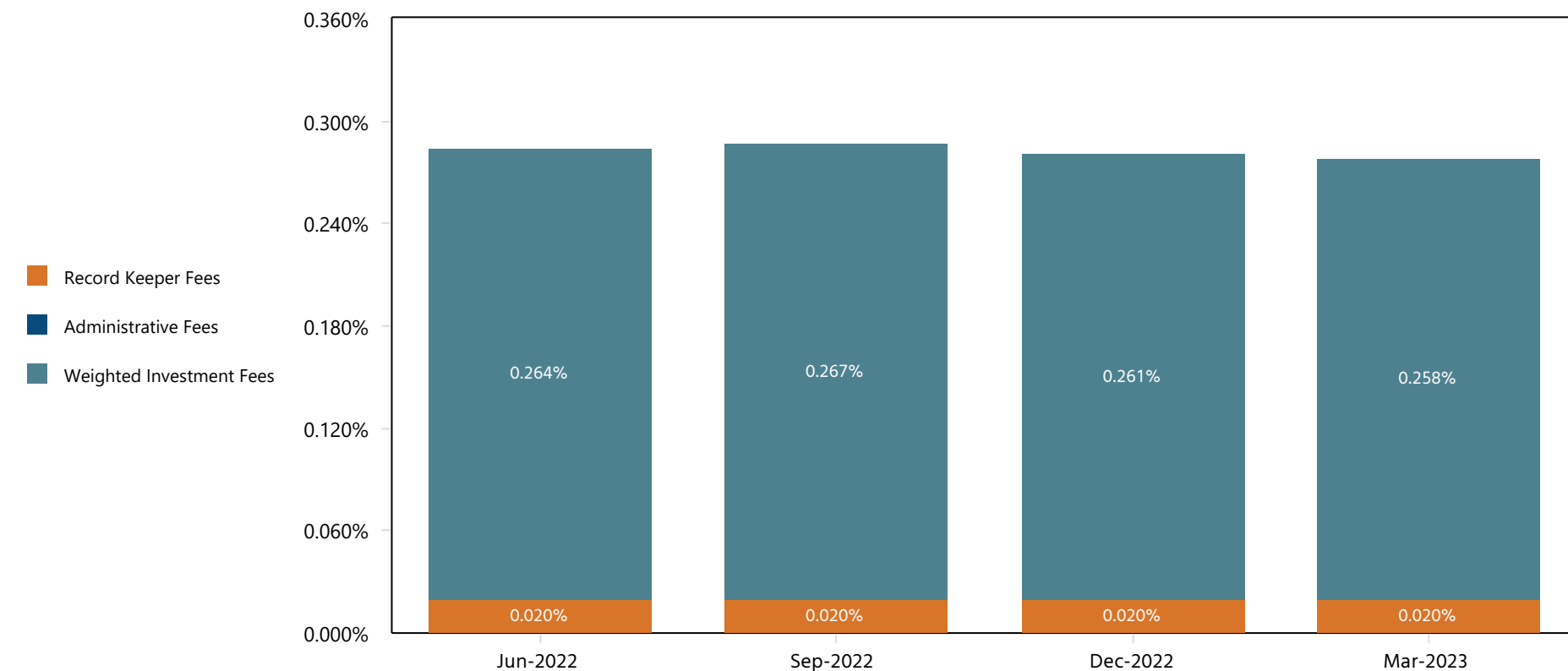
As of March 31, 2023

	Performance (%)										
	QTR	1 Yr	3 Yr	5 Yr	10 Yr	2022	2021	2020	2019	2018	2017
Vanguard Target Retirement 2060	6.64	(6.67)	14.16	6.65	8.24	(17.46)	16.44	16.32	24.96	(7.87)	21.36
Vanguard Target 2060 Composite Index (Net)	6.58	(6.71)	14.51	7.08	8.59	(17.07)	16.75	17.17	25.37	(7.77)	21.55
+/- Index	0.06	0.04	(0.35)	(0.43)	(0.35)	(0.39)	(0.31)	(0.85)	(0.41)	(0.10)	(0.19)
Target-Date 2060 Rank	29	28	60	27	1	24	78	40	55	30	45
Vanguard Target Retirement 2065	6.64	(6.64)	14.17	6.64	-	(17.39)	16.46	16.17	24.96	(7.95)	-
Vanguard Target 2065 Composite Index (Net)	6.58	(6.71)	14.51	7.08	-	(17.07)	16.75	17.17	25.37	(7.77)	-
+/- Index	0.06	0.07	(0.34)	(0.44)	-	(0.32)	(0.29)	(1.00)	(0.41)	(0.18)	-
Target-Date 2065+ Rank	36	18	60	26	-	18	69	56	61	7	-
Vanguard Target Retirement 2070	6.64	-	-	-	-	-	-	-	-	-	-
Vanguard Target 2070 Composite Index (Net)	6.58	-	-	-	-	-	-	-	-	-	-
+/- Index	0.06	-	-	-	-	-	-	-	-	-	-
Target-Date 2065+ Rank	35	-	-	-	-	-	-	-	-	-	-

## **Section 5 | Fee Review**

As of March 31, 2023

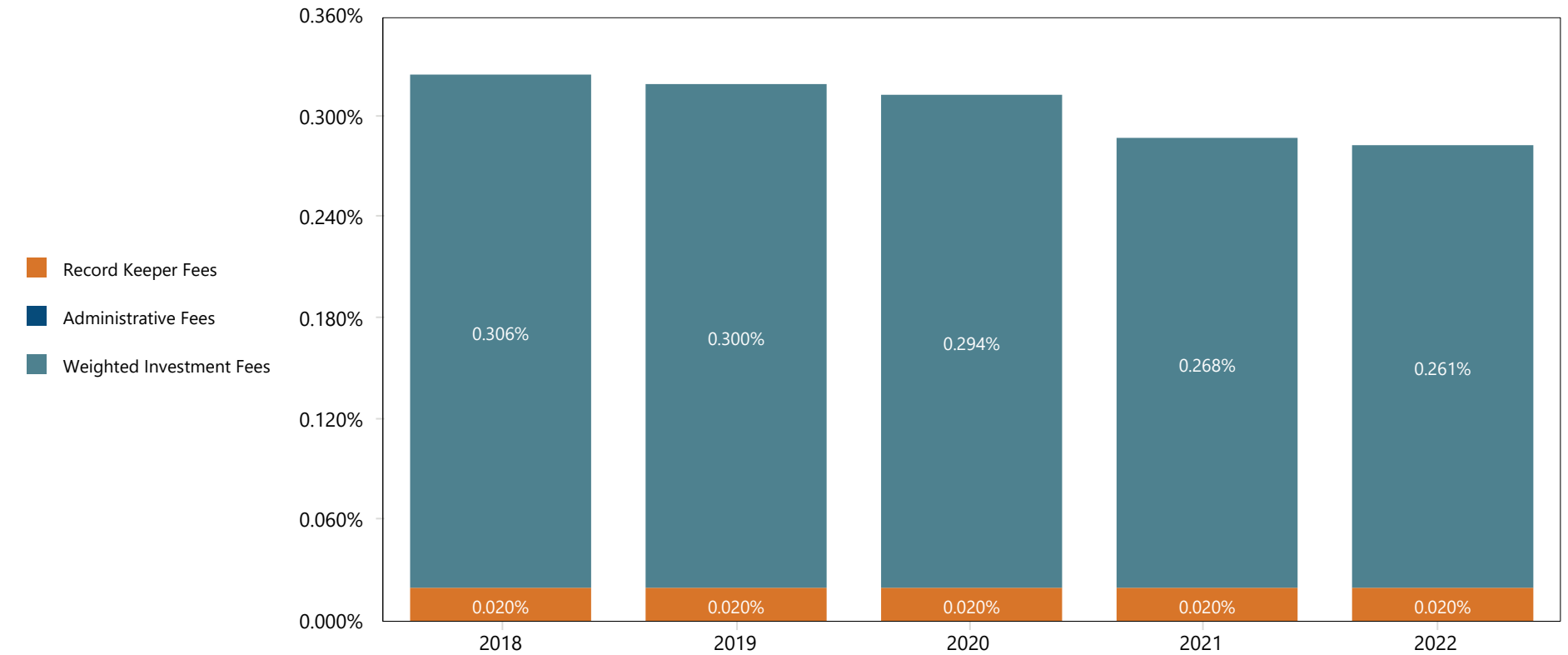
## Annualized Plan Cost



	Jun-2022 (%)	Sep-2022 (%)	Dec-2022 (%)	Mar-2023 (%)
<b>Total Plan Fees</b>	<b>0.284</b>	<b>0.287</b>	<b>0.281</b>	<b>0.278</b>
Record Keeper Fees	0.020	0.020	0.020	0.020
Weighted Investment Fees	0.264	0.267	0.261	0.258



### Annualized Plan Cost



	2018 (%)	2019 (%)	2020 (%)	2021 (%)	2022 (%)
<b>Total Plan Fees</b>	<b>0.326</b>	<b>0.320</b>	<b>0.314</b>	<b>0.288</b>	<b>0.281</b>
Record Keeper Fees	0.020	0.020	0.020	0.020	0.020
Weighted Investment Fees	0.306	0.300	0.294	0.268	0.261

As of March 31, 2023

	Asset-ID	Market Value As of 03/31/2023 \$	Net Expense Ratio (%)	Net Estimated Expense \$
Nationwide Fixed Fund		62,141,727	0.400	248,567
Fidelity US Bond Index	FXNAX	2,776,210	0.025	694
Sterling Capital Total Return Bond R6	STRDX	3,995,689	0.350	13,985
Hotchkis & Wiley High Yield Z	HWHZX	1,535,084	0.600	9,211
DFA US Large Cap Value I	DFLVX	8,022,772	0.210	16,848
Fidelity 500 Index	FXAIX	38,254,211	0.020	7,651
T. Rowe Price Large Cap Growth I	TRLGX	17,269,354	0.550	94,981
MFS Mid Cap Value R6	MVCKX	2,117,619	0.620	13,129
Fidelity Mid Cap Index	FSMDX	3,250,762	0.025	813
JPMorgan Mid Cap Growth R6	JMGMX	7,148,538	0.700	50,040
DFA US Targeted Value I	DFFVX	4,066,831	0.290	11,794
Fidelity Small Cap Index	FSSNX	2,058,783	0.025	515
Vanguard Small Growth Index Adm	VSGAX	3,415,305	0.070	2,391
Vanguard International Value Inv	VTIRX	3,688,217	0.380	14,015
Fidelity Total International Index	FTIHX	5,370,946	0.060	3,223
Vanguard International Growth Adm	VWILX	6,887,837	0.340	23,419
Vanguard Target Retirement 2025	VTTVX	13,310,081	0.080	10,648
Vanguard Target Retirement 2030	VTHRX	1,184,844	0.080	948
Vanguard Target Retirement 2035	VTTHX	7,612,853	0.080	6,090
Vanguard Target Retirement 2040	VFORX	1,165,503	0.080	932
Vanguard Target Retirement 2045	VTIVX	9,116,799	0.080	7,293
Vanguard Target Retirement 2050	VFIFX	1,166,549	0.080	933
Vanguard Target Retirement 2055	VFFVX	2,102,298	0.080	1,682
Vanguard Target Retirement 2060	VTTSX	540,752	0.080	433
Vanguard Target Retirement 2065	VLXVX	3,386	0.080	3
Vanguard Target Retirement 2070	VSVNX	-	0.080	-

## City of Santa Clara | 457 Deferred Compensation Plan

## Plan Fee Analysis

As of March 31, 2023

	Asset-ID	Market Value As of 03/31/2023 \$	Net Expense Ratio (%)	Net Estimated Expense \$
Vanguard Target Retirement Income	VTINX	1,438,378	0.080	1,151
<b>Total</b>		<b>209,641,325</b>	<b>0.258</b>	<b>541,387</b>

### Plan Administration Cost

	Rate (%)	Annualized Charge \$	Period Charge \$	Per Part Est Charge \$
Record Keeper Fees	0.020	41,928	10,482	31

No explicit expense ratio stated for Nationwide Fixed Fund. For reporting purposes, an expense of 0.40% is assumed.

## **Section 6 | Fund Attributions**

DFA US Large Cap Value I (USD)

Performance 04-30-2023					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	14.72	5.22	-1.47	7.69	28.07
2022	-0.35	-12.13	-5.65	14.05	-5.78
2023	0.46	—	—	—	1.58
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly Std 03-31-2023	1.92	16.31	6.66	9.52	9.70
	-5.00	—	6.46	9.51	9.69
Total Return	1.92	16.31	6.66	9.52	9.70
+/- Std Index	-0.75	1.79	-4.78	-2.68	—
+/- Cat Index	0.70	1.93	-1.08	0.40	—
% Rank Cat	46	33	78	34	—
No. in Cat	1221	1135	1087	806	—
7-day Yield					
	Subsidized		Unsubsidized		
30-day SEC Yield	—		—		

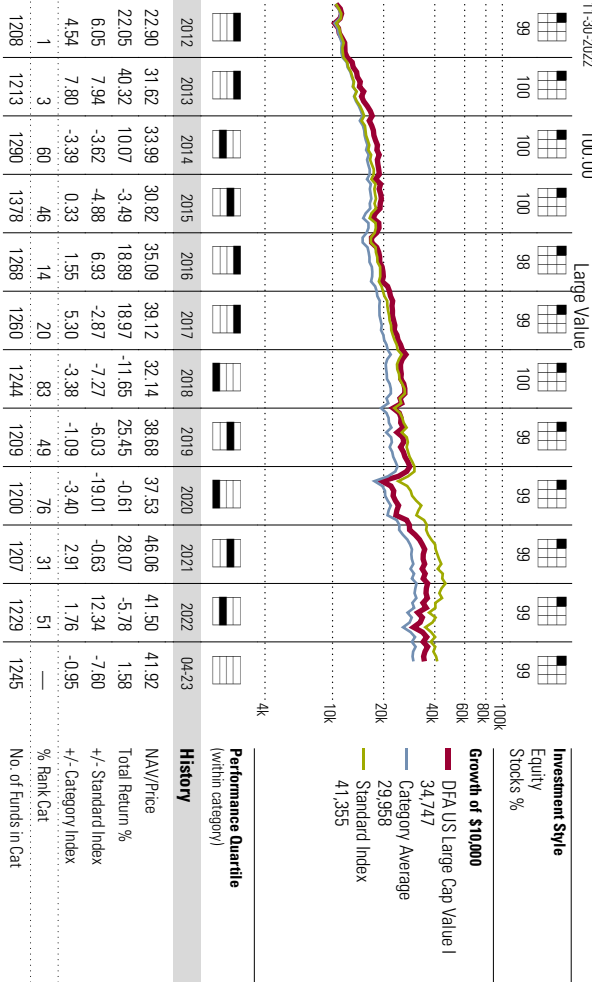
**Performance Disclosure**  
The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.  
The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate, thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.  
Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 888-576-1167 or visit [www.dimensional.com](http://www.dimensional.com).

Fees and Expenses	
Sales Charges	
Front-End Load %	NA
Deferred Load %	NA
Fund Expenses	
Management Fees %	0.29
12b1 Expense %	NA
Net Expense Ratio %	0.21
Gross Expense Ratio %	0.31
Risk and Return Profile	

Morningstar Rating™					
	3 Yr	5 Yr	10 Yr	1,135 funds	1,067 funds
Morningstar Rating™	3★	2★	3★		
Morningstar Risk	+Avg	+Avg	+Avg		
Morningstar Return	+Avg	-Avg	+Avg		
Standard Deviation	3 Yr	5 Yr	10 Yr		
	18.72	21.31	17.01		
Mean	16.31	6.66	9.52		
Sharpe Ratio	0.83	0.34	0.56		
MPT Statistics	Standard Index	Best Fit Index	Russell 1000 Value	TR USD	
Alpha	2.94	0.81	0.81		
Beta	0.91	1.09	1.09		
R-Squared	76.30	97.04	97.04		
12-Month Yield	—	—	—		
Potential Cap Gains Exp	40.03%				

Operations	
Family:	Dimensional Fund Advisors
Manager:	Multiple
Tenure:	11.3 Years
Objective:	Growth and Income

Morningstar Medalist Rating™	Analyst-Driven %	Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
Silver	100.00	★★★	S&P 500 TR USD	Russell 1000 Value TR	US Fund Large Value
	Data Coverage %	1,135 US Fund		USD	



Portfolio Analysis 03-31-2023						
Asset Allocation %	Net %	Long %	Short %	Share Chg since 02-2023	Share Holdings: 354 Total Stocks: 0 Total Fixed-Income, 10% Turnover Ratio	Net Assets %
Cash	0.58	0.63	0.04			
US Stocks	97.46	97.46	0.00			
Non-US Stocks	1.96	1.96	0.00	⬇	10 mil Exxon Mobil Corp	4.75%
Bonds	0.00	0.00	0.00	⬇	6 mil JPMorgan Chase & Co	3.19%
Other/Not Clsfd	0.00	0.00	0.00	⬇	4 mil Chevron Corp	3.12%
					15 mil Pfizer Inc	2.64%
Total	100.00	100.04	0.04	⬇	2 mil Berkshire Hathaway Inc Class B	2.18%

Regional Exposure					
Americas	98.0	0.99	1.77	3.69	
Greater Europe	1.9	1.77	1.77	3.69	
Greater Asia	0.1	0.1	0.1	3.69	
Sector Weightings					
Cyclical	33.3	8.4	3.58	1.20	
Basic Materials	5.7	0.56	1.48	0.16	
Consumer Cyclical	18.7	0.4	0.4	0.16	
Financial Services	0.4	0.4	0.4	0.16	
Real Estate	0.4	0.4	0.4	0.16	
Sensitive	45.8	9.1	1.10	0.96	
Communication Services	9.1	1.10	3.20	0.67	
Energy	15.0	3.20	1.49	1.09	
Industrials	12.2	1.49	1.09	0.10	
Technology	9.5	0.36	0.36	0.10	
Defensive	21.0	4.9	0.67	0.10	
Consumer Defensive	4.9	0.67	1.09	0.10	
Healthcare	15.8	1.09	0.10	0.10	
Utilities	0.3	0.3	0.3	0.10	

Base Currency:	USD	Purchase Constraints:	A
Ticker:	DFLVX	Incept:	02-19-1993
ISIN:	US2332038270	Type:	MF
Minimum Initial Purchase:	\$0	Total Assets:	\$22,081.77 mil

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DFA US Targeted Value I (USD)

Performance 04-30-2023					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	25.10	4.21	-0.55	7.06	38.80
2022	-0.11	-12.88	-2.68	12.63	-4.62
2023	0.96	—	—	—	-1.31
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly Std 03-31-2023	0.09	24.36	7.03	9.02	10.56
	-3.59	—	-7.72	9.16	10.71
Total Return	0.09	24.36	7.03	9.02	10.56
+/- Std Index	-2.58	9.84	-4.41	-3.18	—
+/- Cat Index	8.07	8.93	3.37	2.07	—
% Rank Cat	28	16	19	14	—
No. in Cat	484	449	425	324	—
7-day Yield	Subsidized		Unsubsidized		
30-day SEC Yield	—		—		

**Performance Disclosure**  
The overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.  
The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.  
Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 888-576-1167 or visit [www.dimensional.com](http://www.dimensional.com).

Fees and Expenses	
Sales Charges	NA
Front-End Load %	NA
Deferred Load %	NA
Fund Expenses	0.27
Management Fees %	NA
12bt Expense %	0.29
Net Expense Ratio %	0.29
Gross Expense Ratio %	0.29
Risk and Return Profile	

Morningstar Rating™	4★	4★	4★	4★
Morningstar Risk	+Avg	+Avg	+Avg	+Avg
Morningstar Return	+Avg	+Avg	+Avg	+Avg
Standard Deviation	22.07	26.54	21.14	10 Yr
Mean	24.36	7.03	9.02	10 Yr
Sharpe Ratio	1.04	0.33	0.47	10 Yr
MPT Statistics	Standard Index	Best Fit Index	Morningstar US Sml	10 Yr
Alpha	9.60	4.64	4.64	10 Yr
Beta	0.96	0.97	0.97	10 Yr
R-Squared	61.72	98.27	98.27	10 Yr
12-Month Yield	—	—	—	10 Yr
Potential Cap Gains Exp	35.33%	—	—	10 Yr

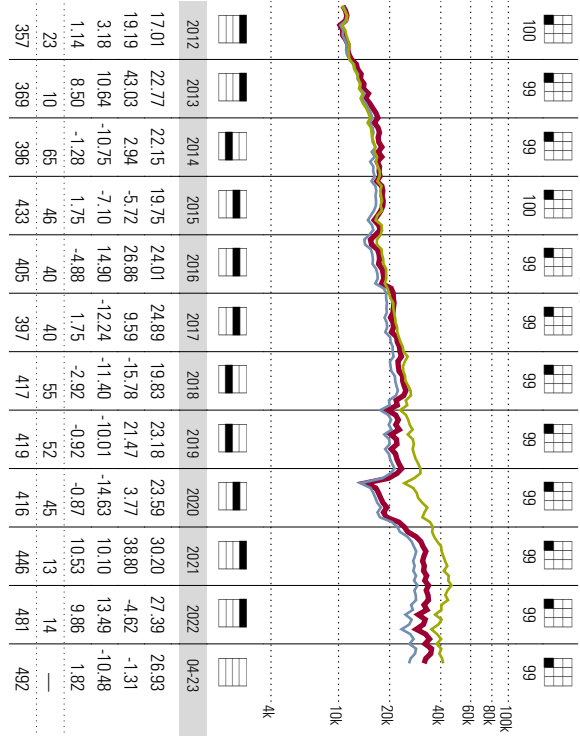
Family:	Dimensional Fund Advisors
Manager:	Multiple
Tenure:	11.3 Years
Objective:	Growth and Income

Morningstar Analyst-Driven % Morningstar Rating™

Medalist Rating™ 100.00

Silver Data Coverage % 449 US Fund Small

01-19-2023 100.00 Value



Investment Style	
Equity	100.00
Stocks %	100.00
Growth of \$10,000	
DFA US Targeted Value I	31,902
Category Average	26,005
Standard Index	41,355
Performance Quartile (within category)	
NAV/Price	26.93
Total Return %	-4.62
+/- Standard Index	-10.48
+/- Category Index	1.82
% Rank Cat	—
No. of Funds in Cat	492
History	

Portfolio Analysis 03-31-2023	
Asset Allocation %	Net %
Cash	1.00
US Stocks	96.76
Non-US Stocks	2.20
Bonds	0.00
Other/Not Cstfd	0.04
Total	100.00
Portfolio Statistics	
P/E Ratio TTM	8.4
P/C Ratio TTM	6.5
P/B Ratio TTM	1.3
Geo Avg Mkt Cap	3009
Share Clng	Share Holdings
1 mil	1.409 Total Stocks, 0 Total Fixed-Income, 18% Turnover Ratio
522.178	Reliance Steel & Aluminum Co
1 mil	Future on E-mini S&P 500 Futures
1 mil	BorgWarner Inc
512.630	Steel Dynamics Inc
313.094	Arrow Electronics Inc
4 mil	Knight-Swift Transportation Holdin
2 mil	Penske Automotive Group Inc
683.763	HF Sinclair Corp
2 mil	Toll Brothers Inc
683.763	AutoNation Inc
2 mil	First Solar Inc
683.763	First Horizon Corp
2 mil	Unum Group
683.763	Builders FirstSource Inc
2 mil	Ankor Technology Inc

Fixed-Income Style	
High	Avg Eff Maturity
Med	Avg Eff Duration
Low	Avg Wtd Coupon
High	Avg Wtd Price
Med	—
Low	—
Credit Quality Breakdown	
AAA	Bond %
AA	—
A	—
BBB	—
BB	—
B	—
Below B	—
NR	—
Regional Exposure	
Americas	98.8
Greater Europe	0.2
Greater Asia	1.0
Sector Weightings	
Cyclical	48.1
Basic Materials	8.3
Consumer Cyclical	14.3
Financial Services	24.6
Real Estate	1.0
Sensitive	40.5
Communication Services	2.5
Energy	8.2
Industrials	18.6
Technology	11.3
Defensive	11.3
Consumer Defensive	5.6
Healthcare	5.2
Utilities	0.5

Base Currency:	USD
Ticker:	DFVX
ISIN:	US2332035953
Minimum Initial Purchase:	\$0
Purchase Constraints:	—
Incept:	02-23-2000
Type:	MIF
Total Assets:	\$11,053.61 mil

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	COO1010100	CO10001000
7-day Yield	—	—
30-day SEC Yield	—	—

*The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.*

## Fees and Expenses

	3Yr	5Yr	10Yr
Morningstar Rating™	4★	4★	5★
Morningstar Funds	1,288	1,169	867
Morningstar Risk	Avg	Avg	Avg
Morningstar Return	+Avg	+Avg	High
	3Yr	5Yr	10Yr
Standard Deviation	18.03	18.64	14.85
Mean	14.51	11.43	12.19
Sharpe Ratio	0.77	0.59	0.75

MPT Statistics		Standard Index	Best Fit Index
Alpha	-0.01		\$SP 500 TR USD
Beta	1.00		
R-Squared	100.00		
12-Month Yield	—		
Potential Cap Gains Exp	39.12%		

Family:	Fidelity Investments
Manager:	Multiple
Tenure:	14.3 Years
Objective:	Growth and Income

|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

Asset Allocation %	Net %	Long %	Short %	Share Chg since 02-2023	Share Amount	Holdings: 503 Total Stocks, .0 Total Fixed-Income, 3% Turnover Ratio	Net Assets %
Cash	0.01	0.14	0.13				
US Stocks	98.90	98.90	0.00		165 ml	Apple Inc	7.12
Non-US Stocks	1.09	1.09	0.00	⊕	82 ml	Microsoft Corp	6.22
Bonds	0.00	0.00	0.00	⊕	99 ml	Amazon.com Inc	2.66
Other/Not Csfld	0.00	0.00	0.00	⊕	27 ml	NVIDIA Corp	1.96
Total	100.00	100.13	0.13	⊖			

Equity Style	Portfolio Statistics						
	Port Avg	Rel Index	Rel Cat	Value	Brend Growth	Small	Large
	66 ml	Aphabnet Inc Class A	1.75	⊕			
	30 ml	Tesla Inc	1.67	⊕			
	20 ml	Berkshire Hathaway Inc Class B	1.62	⊕			
	57 ml	Alphabet Inc Class C	1.57	⊖			
	25 ml	Mega Platforms Inc Class A	1.37	⊖			
	46 ml	Exxon Mobil Corp	1.33	⊕			
		Geo Aug Mkt Cap	189808	0.96	0.84		
	\$mil						

	Int	Med	Ext			
Avg Eff Maturity	—			⊕	32 mi	JPMorgan Chase & Co
Avg Eff Duration	—			⊕	18 mi	Visa Inc Class A
Avg Wtd Coupon	—			⊕	26 mi	Procter & Gamble Co
Avg Wtd Price	—			⊕		
<b>Sector Weightings</b>					Stocks %	Rel Std Index

Credit Quality Breakdown —		
	Bond %	
<b>Cyclical</b>		
AAA	27.9	1.07
AA	2.4	1.07
A	10.4	1.02
BBB	12.4	0.95
BB	2.6	1.00
B		
<b>Real Estate</b>		
Special Purpose Vehicle		
Commercial Real Estate		
Residential Real Estate		
<b>Sensitive</b>		
Communication Services	47.8	1.07
Consumer Services	8.1	0.96
Healthcare		
Technology		
Utilities		

Region	Stocks %	Fed Std Index	Industry	Value	Weight
Below B	—	—	Energy	4.6	0.96
NR	—	—	Industrials	8.4	1.03
			Technology	26.7	1.01
<b>Regional Exposure</b>		<b>→ Defensive</b>		<b>24.3</b>	<b>0.95</b>
Americas	98.9	1.00	Consumer Defensive	7.2	0.96
Greater Europe	1.1	1.01	Healthcare	14.3	0.95
Greater Asia	0.0	1.16	Utilities	2.9	1.00

Base Currency:	USD	Purchase Constraints:	—
Ticker:	FXAX	Incept	05-04-2011
ISIN:	US3159117502	Type:	MF
Minimum Initial Purchase:	\$0	Total Assets:	\$388,628.81 mil

**MORNINGSTAR®**



Fidelity® Mid Cap Index (USD)

Performance 04-30-2023					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	8.15	7.47	-0.93	6.44	22.56
2022	-5.69	-16.86	-3.42	9.21	-17.28
2023	4.05	—	—	—	3.51
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly Std 03-31-2023	-1.65	13.79	7.98	9.85	11.58
Total Return	-8.74	—	8.06	10.05	11.72
	-1.65	13.79	7.98	9.85	11.58
+/- Std Index	-4.32	-0.73	-3.47	-2.35	—
+/- Cat Index	0.04	0.01	0.01	0.00	—
% Rank Cat	65	64	31	21	—
No. in Cat	417	380	356	228	—

7-day Yield  
30-day SEC Yield

Subsidized  
Unsubsidized

Performance Disclosure  
The overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate, thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-544-8544 or visit www.institutional.fidelity.com.

Fees and Expenses

Sales Charges  
Front-End Load %  
Deferred Load %

NA  
NA

Fund Expenses

Management Fees %

0.03

12b1 Expense %

NA

Net Expense Ratio %

0.03

Gross Expense Ratio %

0.03

Risk and Return Profile

	3 Yr	5 Yr	10 Yr
Morningstar Rating™	3★	3★	4★
Morningstar Risk	Avg	Avg	Avg
Morningstar Return	Avg	+Avg	+Avg

Standard Deviation	19.00	21.10	16.54
Mean	13.79	7.98	9.85
Sharpe Ratio	0.71	0.40	0.59

MPT Statistics	Standard Index	Best Fit Index
	Russell Mid-Cap TR	USD

Alpha	-0.39	0.01
Beta	0.99	1.00
R-Squared	88.71	100.00
12-Month Yield	—	—
Potential Cap Gains Exp	16.53%	—

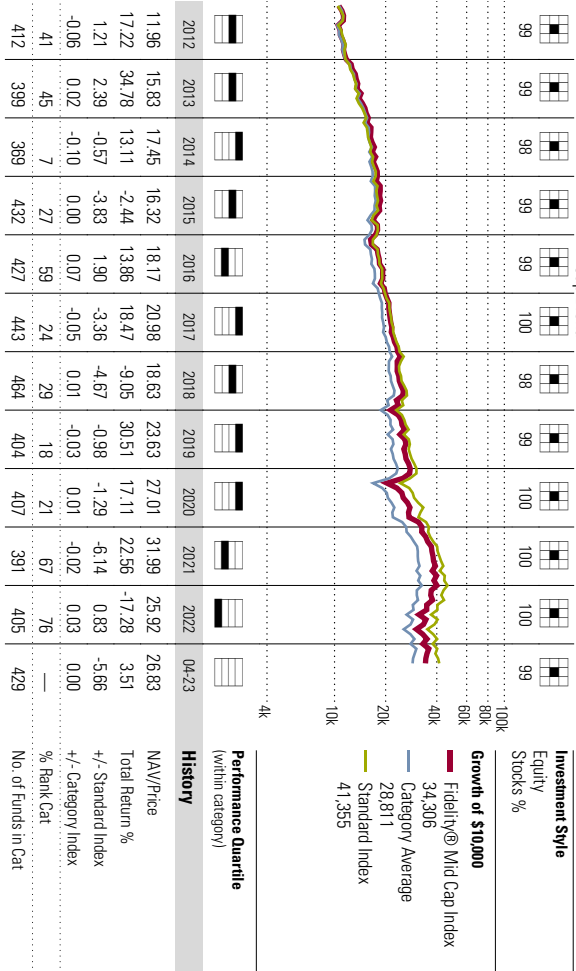
Operations

Family: Fidelity Investments  
Manager: Multiple  
Tenure: 11.7 Years  
Objective: Growth

Base Currency: USD  
Ticker: FSMDX  
ISIN: US316146Z656  
Minimum Initial Purchase: \$0

Purchase Constraints: A  
Incept: 09-08-2011  
Type: MF  
Total Assets: \$26,501.51 mil

Morningstar Analyst-Driven % Morningstar Rating™ Standard Index Category Index Morningstar Cat  
Medalist Rating™ 100.00 Data Coverage % 380 US Fund Mid-Cap Blend S&P 500 TR USD Russell Mid-Cap TR US Fund Mid-Cap Blend  
Gold 100.00



Portfolio Analysis 03-31-2023					
Asset Allocation %		Net %		Long %	
Cash	0.04	0.52	0.47	0.00	0.00
US Stocks	98.98	98.98	0.00	0.00	0.00
Non-US Stocks	0.98	0.98	0.00	0.00	0.00
Bonds	0.00	0.00	0.00	0.00	0.00
Other/Not Cstfd	0.00	0.00	0.00	0.00	0.00
Total	100.00	100.47	0.47	—	—

Equity Style		Portfolio Statistics		Port Avg Index	
Value	Brand Growth	P/E Ratio TTM	17.2	0.81	1.17
Large	Med	P/C Ratio TTM	12.7	0.83	1.18
Med	Small	P/B Ratio TTM	2.7	0.71	1.06
Small	—	Geo Avg Mkt Cap	17973	0.09	1.81

Fixed-Income Style		Avg Eff Maturity		Avg Eff Duration	
Lat	Med	Avg Wtd Coupon	—	—	—
Med	Ext	Avg Wtd Price	—	—	—
Ext	—	—	—	—	—

Credit Quality Breakdown		Bond %	
AAA	—	—	—
AA	—	—	—
A	—	—	—
BBB	—	—	—
BB	—	—	—
B	—	—	—
Below B	—	—	—

Regional Exposure		Stocks %	
Americas	99.1	1.00	—
Greater Europe	0.8	0.78	—
Greater Asia	0.1	2.72	—

Investment Style	
Equity	—
Stocks %	—

Performance Quartile (within category)	
History	—

NAV/Price	26.83
Total Return %	3.51
+/- Standard Index	-5.66
+/- Category Index	0.00
% Rank Cat	—
No. of Funds in Cat	429

Share Clng		Share Holdings		Net Assets	
since 02-2023	Amount	815 Total Stocks	0 Total Fixed-Income.	12% Turnover Ratio	%
416,788	Synopsis Inc	745,788	Calence Design Systems Inc	0.61	0.61
169,509	O'Reilly Automotive Inc	169,509	O'Reilly Automotive Inc	0.59	0.59
2 mil	Amphenol Corp Class A	2 mil	Amphenol Corp Class A	0.54	0.54
131 mil	Fidelity Reverse Str Tr	131 mil	Fidelity Reverse Str Tr	0.49	0.49
1 mil	Phillips 66	1 mil	Phillips 66	0.49	0.49
450,092	Motorola Solutions Inc	450,092	Motorola Solutions Inc	0.49	0.49
75,134	Chipotle Mexican Grill Inc	75,134	Chipotle Mexican Grill Inc	0.48	0.48
51,226	AutoZone Inc	51,226	AutoZone Inc	0.48	0.48
1 mil	DexCom Inc	1 mil	DexCom Inc	0.46	0.46
1 mil	Microchip Technology Inc	1 mil	Microchip Technology Inc	0.46	0.46
212,376	MSCI Inc	212,376	MSCI Inc	0.45	0.45
2 mil	Corteva Inc	2 mil	Corteva Inc	0.45	0.45
349,851	Parker Hannifin Corp	349,851	Parker Hannifin Corp	0.44	0.44
2 mil	Fortnet Inc	2 mil	Fortnet Inc	0.44	0.44

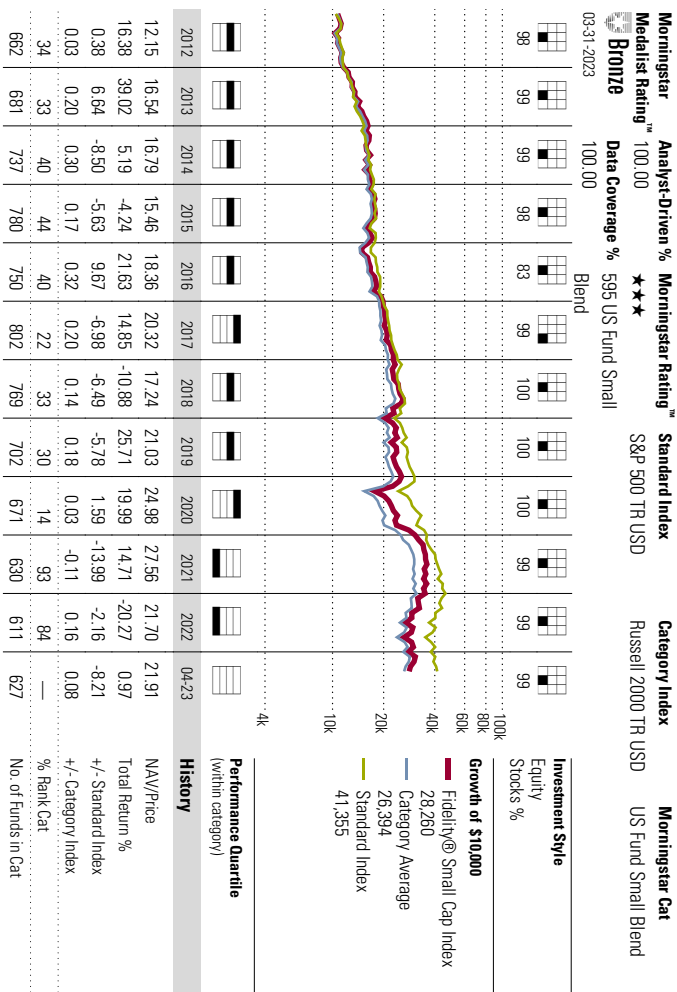
Sector Weightings		Stocks %	
1% Cyclical	37.9	1.37	—
Basic Materials	5.0	2.12	—
Consumer Cyclical	13.1	1.29	—
Financial Services	12.2	0.96	—
Real Estate	7.7	2.92	—
1% Sensitive	41.5	0.87	—
Communication Services	3.7	0.45	—
Energy	4.8	1.02	—
Industrials	15.9	1.94	—
Technology	17.1	0.65	—
1% Defensive	20.6	0.83	—
Consumer Defensive	4.0	0.55	—
Healthcare	10.9	0.75	—
Utilities	5.7	1.98	—

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## Fidelity® Small Cap Index (USD)

Performance 04-30-2023									
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %				
2021	12.73	4.26	-4.40	2.10	14.71				
2022	-7.47	-17.18	-2.08	6.25	-20.27				
2023	2.81	—	—	—	-0.97				
Trading Returns	1Yr	3Yr	5Yr	10Yr	Incept				
Load-adj MWhly	-3.46	11.97	4.24	8.04	9.96				
Std 03-31-2023	-11.41	—	4.81	8.20	10.22				
Total Return	-3.46	11.97	4.24	8.04	9.96				
+/- Std Index	-6.12	-2.55	-7.20	-4.16	—				
+/- Cat Index	0.19	0.07	0.09	0.16	—				
% Rank Cat	64	84	71	53					
No. in Cat	619	595	551	377					



**Fidelity® Total  
International Index (USD**

Fidelity® Total International Index (USD)										Morningstar Rating™		Analyst-Driven %		Morningstar Rating™		Standard Index		Category Index		Morningstar Cat		
										Medalist Rating		100.00		★★★		MSCI ACWI Ex USA NR		MSCI ACWI Ex USA NR		US Fund Foreign Large Blend		
										Gold		Data Coverage %		683 US Fund		USD		USD				
Performance 04-30-2023																						
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %																	
2021	3.91	5.53	-3.02	2.01	8.47																	
2022	-6.21	-13.16	-10.45	14.78	-16.28																	
2023	6.75	—	—	—	8.63																	
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept																	
Load-adj Mthly	3.67	10.23	2.57	—	5.66																	
Std 03-31 -2023	-4.71	—	2.37	—	5.46																	
Total Return	3.67	10.23	2.57	—	5.66																	
+/- Std Index	0.62	0.50	0.06	—	—																	
+/- Cat Index	0.62	0.50	0.06	—	—																	
% Rank Cat	80	66	67	—	—																	
No. in Cat	733	683	622	—	—																	
					<p>Investment Style</p> <p>Equity Stocks %</p> <p>Growth of \$10,000</p> <p>Fidelity® Total International Index</p> <p>Category Average</p> <p>Standard Index</p>																	
					<p>Performance Quartile (within category)</p> <p>NAV/Price</p> <p>Total Return %</p> <p>+/- Standard Index</p>																	
7-day Yield	Subsidized				—	Unsubsidized				—					10.00	12.53	10.50	12.42	13.57	14.34	11.71	12.72
-30-day SEC Yield	—				—	—				—					—	27.63	-14.38	21.48	11.07	8.47	-16.28	8.63
	—				—	—				—					—	0.44	-0.19	-0.03	0.42	0.65	-0.27	-0.10

**Performance Disclosure**  
The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

*The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate, thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.*

*Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-544-8544 or visit [www.institutional.fidelity.com](http://www.institutional.fidelity.com).*

## Fees and Expenses

## Sales Charges

## Front-End Load

**Deferred Load %**

### Fund Expenses

Management Fees %

12b1 Expense %

Net Expense Ratio %

Gross Expense Ratio %

## Risk and Return Profile

Mitsubishi Data™

Morningstar Pick

Morningstar Risk

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12-Month Yield

Potential Cap Gains Exp

## Operations

Family:

Manager:

tenure:

Objective:

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Fidelity® US Bond Index (USD)

Morningstar Medalist Rating™	Analyst-Driven %	Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
★★★★★ Gold	90.00 Data Coverage %	★★★★	Bloomberg US Agg Bond TR USD	Bloomberg US Agg Bond TR USD	US Fund Intermediate Core Bond
03-31-2023	99.00	Intermediate Core Bond			

Performance 04-30-2023									
Quarterly Returns						Investment Style			
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %	Fixed-Income Bond %			
2021	-3.48	1.85	0.02	-0.12	-1.79	93			
2022	-5.88	-4.66	-4.69	1.68	-13.03	98			
2023	3.06	—	—	—	3.71	96			
Trailing Returns						Growth of \$10,000			
	1 Yr	3 Yr	5 Yr	10 Yr	Incept	Fidelity® US Bond Index 11,953			
Load-adj Mthly Std 03-31-2023	-0.44	-3.24	1.19	1.29	1.97	Category Average 12,115			
Total Return	-4.78	—	0.89	1.32	1.93	Standard Index 11,991			
	-0.44	-3.24	1.19	1.29	1.97				
+/- Std Index	-0.02	-0.09	0.01	-0.04	—				
+/- Cat Index	-0.02	-0.09	0.01	-0.04	—				
% Rank Cat	32	74	34	37					
No. in Cat	461	416	380	282					
						History			
						Performance Quartile (within category)			
						2012			
						2013			
						2014			
						2015			
						2016			
						2017			
						2018			
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						2022			
						04-23			

**Performance Disclosure**  
The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.  
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	Asset Allocation %			Net %	Long %	Short %	Share Chg since 02-2023	Share Amount	Holdings: 0 Total Stocks, 8,914 Total Fixed-Income, 50% Turnover Ratio	Net Assets %
	Cash	-0.04	0.65	0.68						
	US Stocks	0.00	0.00	0.00						
	Non-US Stocks	0.00	0.00	0.00						
	Bonds	100.04	100.04	0.00						
	Other/Not Csfld	0.00	0.00	0.00						
	Total	100.00	100.68	0.68						
	ⓘ									
	507 mil United States Treasury Notes 1.5%									
Fees and Expenses										

Front-End Load %		NA	
Deferred Load %		NA	
Fund Expenses			
Management Fees %		0.03	
12b1 Expense %		NA	
Net Expense Ratio %		0.03	
Gross Expense Ratio %		0.03	
Risk and Return Profile			
Morningstar Rating™	3 Yr	5 Yr	10 Yr
Morningstar Risk	416 funds	380 funds	282 funds
Morningstar Return	2★	4★	3★
	Avg	Avg	Avg
	-Avg	Avg	Avg
Standard Deviation	3 Yr	5 Yr	10 Yr
Mean	6.21	5.47	4.42
	-3.24	1.19	1.29
Sharpe Ratio	-0.71	-0.04	0.09
MFT Statistics			
	Standard Index	Best Fit Index	Bloomberg US Agg Bond TR USD
Alpha	-0.08		-0.08
Beta	1.00		1.00
R-Squared	99.86		99.86
12-Month Yield			—
Potential Cap Gains Exp			-0.01%

Value			Brand			Growth		

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**Morningstar**  
**Medalist Rating<sup>1</sup>**  
**Silver**

Morningstar Rating		Analyst-Driven %		Morningstar Rating™		Standard Index		Category Index		Morningstar Cat	
Medalist Rating		100.00		★★★		Bloomberg US Agg		ICE BofA US High Yield		US Fund High Yield Bond	
Silver		Data Coverage %		619 US Fund High		Bond TR USD		TR USD			
01-25-2023		100.00		Yield Bond							
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90		89		83		90		92		92	
90		89		83		90		92		92	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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					% Rank Cat
—	—	82	71	11	31
—	—	6/76	6/78	6/82	6/87
No. of Funds in Cat					

Asset Allocation %	Net %	Long %	Short %	Share Cng	Share	Holdings :	Net Assets
					Amount	4 Total Stocks , 196 Total Fixed-Income, 40% Turnover Ratio	%
Cash	7.31	7.31	0.00	since 02-2023			
US Stocks	0.99	0.99	0.00				
Non-US Stocks	0.00	0.00	0.00	⊕	11 mil	Virgin Media Sec Finance PLC 5.5%	1.14%

	100 nn	100 nn	14 mil Boardriders Pref Stk	
Bonds	87.09	87.09	0.00	1.04%
Other/Not Cstd	4.61	4.61	0.00	0.99%
Total	100.00	100.00	0.00	

---

Equity Style		Portfolio Statistics	
White	Bond Growth	Port Avg	Rel Index
	Large	—	—
	Mid	—	—
	Small	—	—

### Fixed-Income Style

	Ltd	Mod	Ext
Avg Eff Maturity			1.65
Avg Eff Duration			3.78
Avg Wtd Coupon			5.89

--	--	--	--

**Credit Quality Breakdown**

AAA	0.00
AA	0.00
A	0.00
BBB	4.54
BB	44.23
B	33.77

## Below B

NR	1.7
<b>Regional Exposure</b>	
Americas	—
Greater Europe	—
Greater Asia	—

Ticker:	HMWZX
ISIN:	US4413485292
Minimum Initial Purchase:	\$1 mil
Min Auto Investment Plan:	\$1 mil
Purchase Constraints:	A

**MCBRINGSTAR®**



JPMorgan Mid Cap Growth R6 (USD)

Performance 04-30-2023					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	1.34	7.25	-1.50	3.66	10.99
2022	-11.75	-20.60	-1.70	6.05	-26.96
2023	7.76	—	—	—	6.22
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-1.23	9.26	10.68	12.30	13.27
Std 03-31-2023	-10.80	—	10.73	12.67	13.52
Total Return	-1.23	9.26	10.68	12.30	13.27
+/- Std Index	-3.89	-5.26	-0.77	0.10	—
+/- Cat Index	-2.82	0.05	1.72	1.46	—
% Rank Cat	42	51	11	7	—
No. in Cat	570	527	497	386	—
7-day Yield		Subsidized		Unsubsidized	
30-day SEC Yield		—		—	

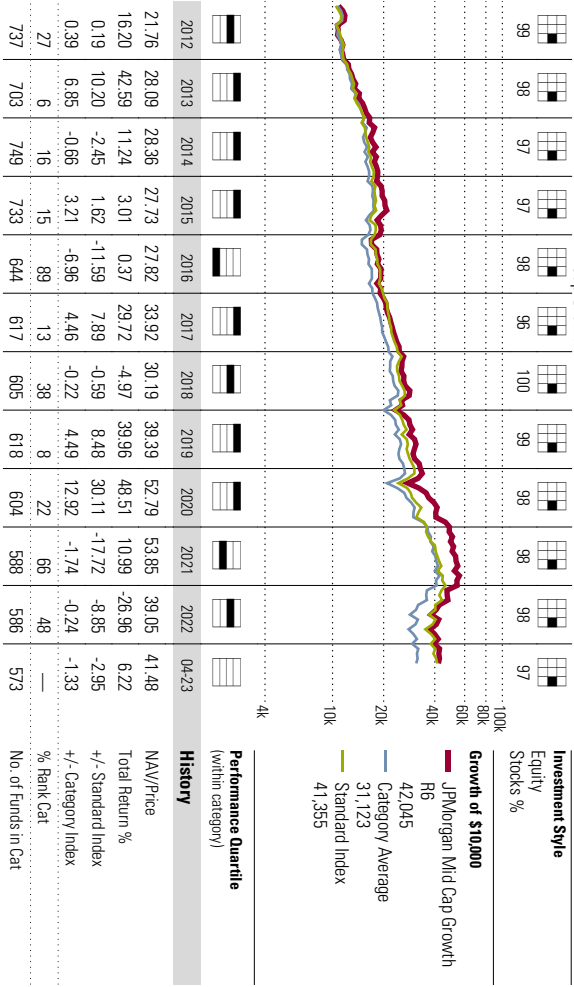
**Performance Disclosure**  
The overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.  
The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate, thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.  
Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-480-4111 or visit [www.jpmorganfunds.com](http://www.jpmorganfunds.com).

**Fees and Expenses**  
**Sales Charges**  
**Front-End Load %** NA  
**Deferred Load %** NA  
**Fund Expenses**  
Management Fees % 0.65  
12bt Expense % NA  
**Net Expense Ratio %** 0.70  
**Gross Expense Ratio %** 0.75  
**Risk and Return Profile**

Morningstar Rating™					
3★	527 funds	5 Yr 4★	386 funds	5★	—
Morningstar Risk	Avg	Avg	Avg	Avg	High
Morningstar Return	Avg	+Avg	High		
Standard Deviation	3 Yr 20.97	5 Yr 21.71	10 Yr 17.72		
Mean	9.26	10.68	12.30		
Sharpe Ratio	0.46	0.50	0.69		
MP1 Statistics					
Standard Index	Best Fit Index	Russell Mid Cap	Growth TR USD		
Alpha	-4.49	0.28	0.97		
Beta	1.02	0.97	0.97		
R-Squared	77.28	97.67			
12-Month Yield	—				
Potential Cap Gains Exp	4.61%				

**Operations**  
Family: JPMorgan  
Manager: Multiple  
Tenure: 18.7 Years  
Objective: Growth

**Morningstar Medalist Rating™** 100.00  
**Analyst-Driven %** Morningstar Rating™ ★★★★★  
**Data Coverage %** 527 US Fund Mid-Cap Growth  
08-12-2022  
**Standard Index** S&P 500 TR USD  
**Category Index** Russell Mid Cap Growth US Fund Mid-Cap Growth TR USD



Portfolio Analysis 03-31-2023							
Asset Allocation %	Net %	Long %	Short %	Share Chg since 02-2023	Share Amount	Holdings : 107 Total Stocks, 8 Total Fixed-Income, 45% Turnover Ratio	Net Assets %
Cash	3.26	3.26	0.00		273 mil	JPMorgan Prime Money Market Inst	3.26
US Stocks	96.17	96.17	0.00	⊕	1 mil	Quanta Services Inc	2.23
Non-US Stocks	0.57	0.57	0.00	⊕	483,102	Synopsys Inc	2.22
Bonds	0.00	0.00	0.00	⊕	962,525	Trane Technologies PLC Class A	2.11
Other/Not Clsfd	0.00	0.00	0.00	⊖	2 mil	Copart Inc	2.11
Total	100.00	100.00	0.00	⊕			

Regional Exposure					
Americas	99.4	Rel Std Index	1.00		
Greater Europe	0.6	0.57	0.57		
Greater Asia	0.0	0.00	0.00		
Sector Weightings					
Cyclical	24.0	Stocks %	0.86		
Basic Materials	0.6	0.27	0.27		
Consumer Cyclical	14.2	1.40	1.40		
Financial Services	9.2	0.73	0.73		
Real Estate	0.0	0.00	0.00		
Sensitive	50.8	1.1	1.07		
Communication Services	3.9	0.83	0.83		
Energy	17.0	2.07	2.07		
Industrials	28.9	1.09	1.09		
Technology	25.2	1.3	1.02		
Defensive	1.3	0.18	0.18		
Consumer Defensive	23.8	1.65	1.65		
Healthcare	0.0	0.00	0.00		
Utilities					

Base Currency: USD  
Ticker: JMG6MX  
ISIN: US4812C22886  
Minimum Initial Purchase: \$15 mil  
Purchase Constraints: A  
Incept: 11-01-2011  
Type: MF  
Total Assets: \$8,298.83 mil

MFS Mid Cap Value R6 (USD)

Performance 04-30-2023

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	13.45	5.04	-0.26	10.22	31.00
2022	-2.53	-12.40	-4.51	12.06	-8.64
2023	0.60	—	—	—	1.56
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly Std 03-31-2023	0.64	17.61	8.29	9.65	10.08
	-5.70	—	8.30	9.66	10.06
Total Return	0.64	17.61	8.29	9.65	10.08
+/- Std Index	-2.02	3.09	-3.16	-2.55	—
+/- Cat Index	4.12	1.85	1.86	0.98	—
% Rank Cat	30	44	19	11	—
No. in Cat	397	382	362	266	—

7-day Yield —

30-day SEC Yield —

Performance Disclosure

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The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate, thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-225-2806 or visit <http://www.mfs.com>.

Fees and Expenses

Sales Charges

Front-End Load % NA

Deferred Load % NA

Fund Expenses

Management Fees % 0.61

12bt Expense % NA

Net Expense Ratio % 0.62

Gross Expense Ratio % 0.63

Risk and Return Profile

Morningstar Rating™ 3★

Morningstar Risk Avg -Avg

Morningstar Return Avg +Avg

Standard Deviation 18.03

Mean 17.61

Sharpe Ratio 0.92

MPT Statistics

Alpha 4.22

Beta 0.89

R-Squared 78.83

12-Month Yield —

Potential Cap Gains Exp 14.46%

Operations

Family: MFS

Manager: Multiple

Tenure: 14.5 Years

Objective: Growth

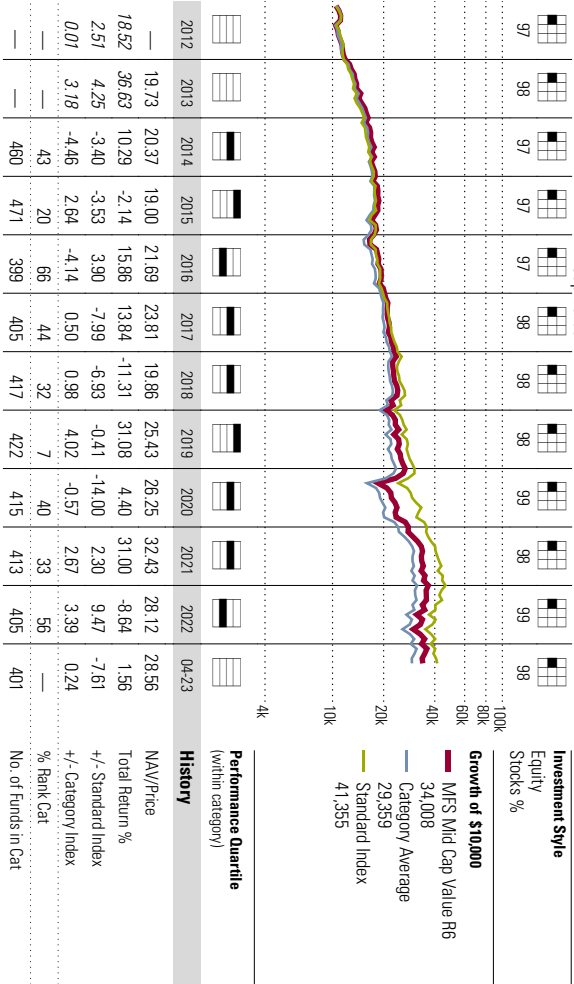
Morningstar Analyst-Driven % Morningstar Rating™ Morningstar Cat

Moedist Rating™ 100.00

Silver Data Coverage % 382 US Fund Mid-Cap Value

Standard Index S&P 500 TR USD

Category Index Russell Mid Cap Value US Fund Mid-Cap Value



Portfolio Analysis 03-31-2023

Asset Allocation %

Cash 2.02

US Stocks 92.93

Non-US Stocks 5.06

Bonds 0.00

Other/Not Cstfd 0.00

Total 100.00

Net % Long % Short %

Share Clng Amount Holdings: 144 Total Stocks: 0 Total Fixed-Income, 17% Turnover Ratio

14 mil PG&E Corp 1.47

4 mil LKQ Corp 1.34

4 mil KBR Inc 1.34

3 mil The Hartford Financial Services Gr 1.29

1 mil Eaton Corp PLC 1.29

3 mil Johnson Controls International PLC 1.21

1 mil Hess Corp 1.14

480,710 Everest Re Group Ltd 1.14

868,668 Arthur J. Gallagher & Co 1.10

1 mil Life Storage Inc 1.08

5 mil VICI Properties Inc Ordinary Shares 1.05

2 mil Westinghouse Air Brake Technologie 1.00

940,209 AmerisourceBergen Corp 0.99

2 mil Toll Brothers Inc 0.97

2 mil DuPont de Nemours Inc 0.96

Equity Style

Value Brand Growth

Large Mid Small

High Med Low

Fixed-Income Style

Avg Eff Maturity

Avg Eff Duration

Avg Wtd Coupon

Avg Wtd Price

Credit Quality Breakdown —

AAA AA A BBB BB B Below B NR

Regional Exposure

Americas 95.4

Greater Europe 3.4

Greater Asia 1.1

Base Currency: USD

Ticker: MVOXX

ISIN: US55273W4758

Minimum Initial Purchase: \$0

Purchase Constraints: A

Incept: 02-01-2013

Type: MIF

Total Assets: \$14,958.71 mil



# Nationwide Fixed Account

## Group Annuity Contract

Retirement Solutions

Fact sheet

# Q1 2023

AS OF 03/31/23

The Nationwide Fixed Account<sup>1</sup> is a General Account Product that seeks to provide a low-risk, stable investment option offering consistently competitive returns for retirement plan investors.



### Plan Liquidity

- Five-year book value payout or
- Subject to a market value adjustment (MVA)



### Participant Liquidity

- Fully liquid or with restrictions for a higher crediting rate
- Subject to 90-day equity wash if competing funds are offered



### Crediting Rates

- Quarterly reset
- Pooled investment



### Available to All Contractually Applicable Retirement Plans, Including:

- Governmental 457(b)

## Investment Objective & Strategy

The General Account is managed by a team of investment professionals with deep market knowledge, multi-asset class capabilities, and broad market cycle experience. The team uses a disciplined, research-driven approach, supported by a robust risk management framework, to provide diversification and strong risk-adjusted returns.

## Investment Information

Fund Inception	01/10/1931
Total Market Value (Billions)	\$49.80
Total Number of Unique Holdings	5,665
Average Quality	A-
Weighted Average Maturity	11.5 Years
Weighted Average Life	9.2 Years
Effective Duration	5.99 Years
Market to Book Ratio <sup>2</sup>	94%

## Fees and Expenses

Spread-Based General Account

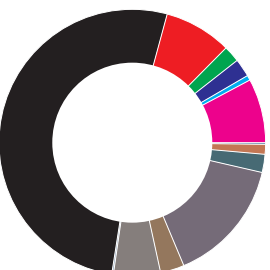
## Portfolio Manager

David Fritz, CFA, Tenure since 1999

## Net Crediting Rate

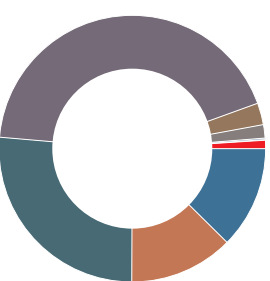
The rate currently being credited to your account can be found on your statement, on the web at NRSFORU.com or by contacting our solutions center at 1-877-677-3678.

## Investment Allocation (%)



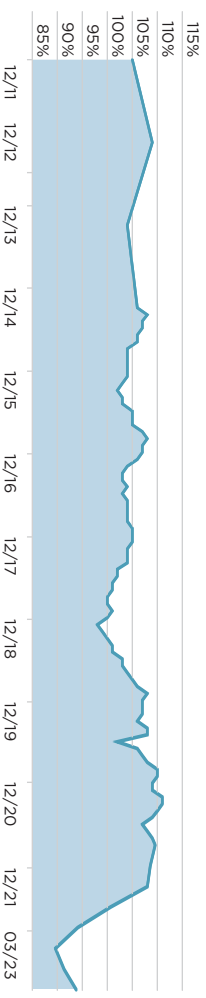
■ ABS	0.2%
■ Agency MBS	1.2%
■ CMBS	2.2%
■ CML	15.1%
■ EMD	2.9%
■ Equity/Alts/Other	5.7%
■ Government	0.2%
■ Investment Grade Corp	51.8%
■ Municipal	8.2%
■ Non-Agency MBS	2.0%
■ Non-Investment Grade	2.2%
■ Short Term	0.6%
■ Structured Credit	7.8%

## Credit Quality (%)



■ AAA	12.4%
■ AA	12.6%
■ A	26.3%
■ BBB	43.1%
■ BB	2.6%
■ B	1.6%
■ CCC	0.2%
■ Below CCC	0.1%
■ Not Rated	1.0%

## Market-to-Book Ratio Over Time (12/31/11-03/31/23)



# Nationwide Fixed Account

Q1 2023  
AS OF 03/31/23

## Nationwide Life Insurance Company Ratings<sup>3</sup>

A+

A.M. Best

Affirmed 12/22/21

A1

Moody's

Affirmed 5/27/20

A+

Standard & Poor's

Affirmed 5/7/21

Nationwide Fixed Account is backed by the General Account of Nationwide Life Insurance Company and is backed solely by the claims paying ability of Nationwide Life Insurance Company. Information about the securities held in the General Account does not imply ownership by plan participants or by plan sponsors as the owners of the group annuity contract. This account is not a mutual fund.

The market to book ratio is specific to the Nationwide Life Insurance Company and represents assets on an aggregate basis. However, each product contract experiences its own ratio that differs from the aggregate. The market to book ratio may fluctuate from time to time in accordance with market trends.

These ratings and rankings reflect Rating Agency assessment of the financial strength and claims-paying ability of Nationwide Life Insurance Company and are subject to change at any time. They are not intended to reflect the investment experience or financial strength of any variable account, which is subject to market risk. Because the dates are only updated when there is a change in the rating, the dates reflect the most recent ratings we have received.

Your contract may contain liquidation (exchange and/or transfer) restrictions. The unregistered group variable and fixed annuity contracts are issued by Nationwide Life Insurance Company, Columbus, Ohio. For more information, please contact your Plan Sponsor.

Please contact the Solutions Center at 1-877-677-3678 for assistance.

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**DEFINITIONS: Average Quality (AQ):** the book value weighted average quality rating of the bond portfolio. The AQ of this investment portfolio is calculated using the second lowest of four (including internal), median of three, lowest of two, or one rating for each security including but not limited to the following NRSROs: S&P, Moody's, Fitch, and internal ratings. Asset Backed Securities, Commercial Mortgage Backed Securities, and Non-Agency Mortgage Backed Securities will only use internal rating. **Average Maturity (AM):** the book value weighted length of time (in years) to the stated maturity for fixed-income securities. Since this measure ignores the possibility of pre-payment, it generally overstates the average length of time to return of principal. The AM of this investment portfolio is based on scheduled maturities and does not reflect prepayments. **Average Weighted Life (AWL):** for debt securities, the dollar-weighted average time until the return of all principal in years. AWL for this investment portfolio is weighted by book value. **Effective Duration:** effective duration specifically takes into account the way changes in yield will affect expected cash flows. It takes into account both the discounting that occurs at different interest rates as well as changes in cash flows. **Market to Book Ratio:** market to book ratio is equal to market value divided by book value. **Exchange:** An exchange is the movement of money between the Nationwide Fixed Account and any other investment option available to the plan. **Transfer:** a transfer is the movement of money between product providers within the same plan or another financial institution.

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Nationwide®

NRN-1198M9.10 (04/23)



Release date 04-30-2023 | Note: Portions of the analysis are based on pre-inception returns. Please read disclosure for more information.

Sterling Capital Total  
Return Bond R6 (USD)

Performance 04-30-2023					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	-3.00	2.16	0.04	-0.26	-1.12
2022	-6.15	-4.69	-4.42	1.57	-13.15
2023	3.01	—	—	—	3.63
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-0.69	-1.86	1.60	—	1.35
Std 03-31-2023	-4.68	—	1.36	—	1.25
Total Return	-0.69	-1.86	1.60	1.80	1.35
+/- Std Index	-0.27	1.29	0.43	0.48	—
+/- Cat Index	-0.27	1.29	0.43	0.48	—
% Rank Cat	53	15	13	7	—
No. in Cat	461	416	380	282	—

7-day Yield 05-10-23 3.40 <sup>1</sup>

30-day SEC Yield 04-30-23 3.83 <sup>1</sup>

1. Contractual waiver. Expires 01-31-2024

Performance Disclosure

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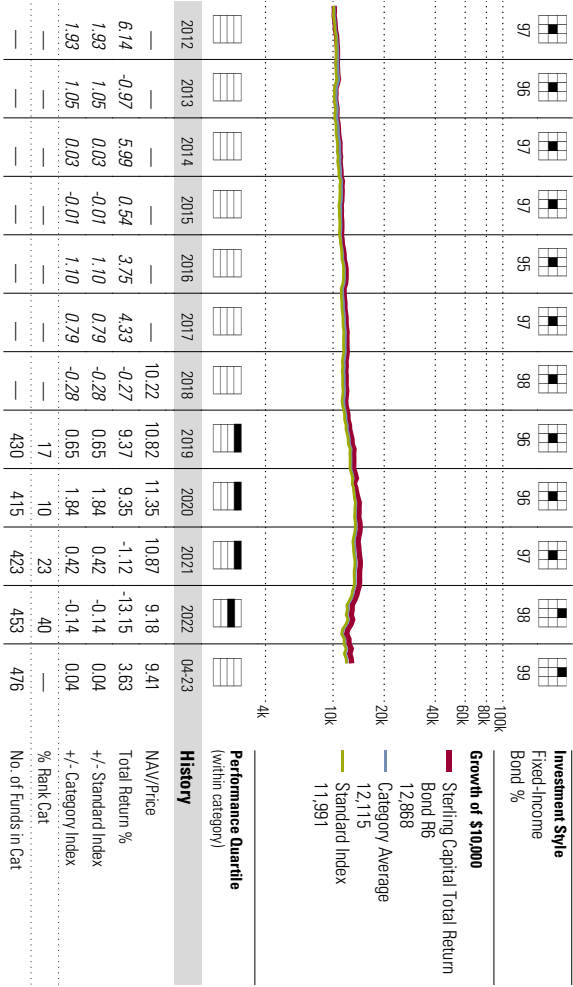
Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-228-1872 or visit [www.sterlingcapitalfunds.com](http://www.sterlingcapitalfunds.com).

Fees and Expenses

Sales Charges	
Front-End Load %	NA
Deferred Load %	NA

Fund Expenses	
Management Fees %	0.25
12bt Expenses %	0.00
Net Expense Ratio %	0.35
Gross Expense Ratio %	0.48
Risk and Return Profile	

Morningstar Rating™	4★	4★	5★
Morningstar Risk	-Avg	Avg	Avg
Morningstar Return	+Avg	Avg	High
Standard Deviation	5.96	5.44	4.32
Mean	-1.86	1.60	1.80
Sharpe Ratio	-0.51	0.03	0.21
MPT Statistics	Standard Index	Best Fit Index	Bloomberg US Universal TR USD
Alpha	1.07	0.42	—
Beta	0.94	0.95	—
R-Squared	95.78	97.08	—
12-Month Yield	3.05%	—	—
Potential Cap Gains Exp	-19.17%	—	—



Portfolio Analysis 04-30-2023					
Asset Allocation % 03-31-2023	Net %	Long %	Short %	Share Chg since 03-2023	Holdings: 0 Total Stocks, 261 Total Fixed-Income, 48% Turnover Ratio
Cash	0.36	0.39	0.02	—	79 ml United States Treasury Bonds 1.375%
US Stocks	0.00	0.00	0.00	—	40 ml United States Treasury Notes 4.125%
Non-US Stocks	0.00	0.00	0.00	—	52 ml United States Treasury Bonds 2.5%
Bonds	99.37	99.37	0.00	—	31 ml United States Treasury Notes 2.625%
Other/Not Csfld	0.26	0.26	0.00	—	21 ml ONEMAIN FINANCIAL ISSUANCE TRUST 1
Total	100.00	100.02	0.02	—	
Top Holdings 03-31-2023					
Equity Style	Value	Brand	Growth	P/E Ratio TTM	Rel Index
Large	—	—	—	—	—
Mid	—	—	—	—	—
Small	—	—	—	—	—
Fixed-Income Style					
Int	Med	Ext	Avg Eff Maturity	Avg Eff Duration	Rel Index
High	—	—	—	—	—
Mid	—	—	—	—	—
Low	—	—	—	—	—
Credit Quality Breakdown 03-31-2023					
AAA	—	—	—	—	—
AA	—	—	—	—	—
A	—	—	—	—	—
BBB	—	—	—	—	—
BB	—	—	—	—	—
B	—	—	—	—	—
Below B	—	—	—	—	—
NR	—	—	—	—	—
Regional Exposure					
Americas	—	—	—	—	—
Greater Europe	—	—	—	—	—
Greater Asia	—	—	—	—	—

Sector Weightings			Stocks %	Rel Std Index
Basic Materials	—	—	—	—
Consumer Cyclical	—	—	—	—
Financial Services	—	—	—	—
Real Estate	—	—	—	—
Sensitive	—	—	—	—
Communication Services	—	—	—	—
Energy	—	—	—	—
Industrials	—	—	—	—
Technology	—	—	—	—
Defensive	—	—	—	—
Consumer Defensive	—	—	—	—
Healthcare	—	—	—	—
Utilities	—	—	—	—

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Please date 04-30-2023 | Note: Portions of the analysis are based on pre-inception returns. Please read disclosure for more information.

Sterling Capital Total Return Bond R6 (USD)		Morningstar Analyst-Driven %	Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
		Medalist Rating™	10.00	★★★★	Bloomberg US Agg	US Fund Intermediate
		Neutral	Data Coverage %	416 US Fund	Bond TR USD	Core Bond
		03-31-2023	100.00	Intermediate Core Bond		

Operations		Ticker:	STRDX	Incept	02-01-2018
Family:	Sterling Capital Funds				
Manager:	Multiple	ISIN:	US859180D242	Type:	MF
Tenure:	15.3 Years	Minimum Initial Purchase:	\$10 mil	Total Assets:	\$1,028.71 mil
Objective:	Growth and Income	Min Auto Investment Plan:	\$10 mil		
Base Currency:	USD	Purchase Constraints:	A		

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T. Rowe Price Lrg Cp Gr I (USD)

Performance 04-30-2023					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	3.66	12.53	-0.50	6.14	23.18
2022	-13.25	-22.92	-2.89	-0.18	-35.18
2023	14.18	—	—	—	17.33
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	1.94	9.54	10.35	14.66	10.53
Std 03-31-2023	-14.69	—	10.19	14.45	10.43
Total Return	1.94	9.54	10.35	14.66	10.53
+/- Std Index	-0.73	-4.98	-1.10	2.45	—
+/- Cat Index	-0.40	-4.08	-3.45	0.19	—
% Rank Cat	36	64	54	8	—
No. in Cat	1228	1123	1042	798	—
7-day Yield 05-10-23	Subsidized		Unsubsidized		
30-day SEC Yield	0.00		—		

**Performance Disclosure**  
The overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate, thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

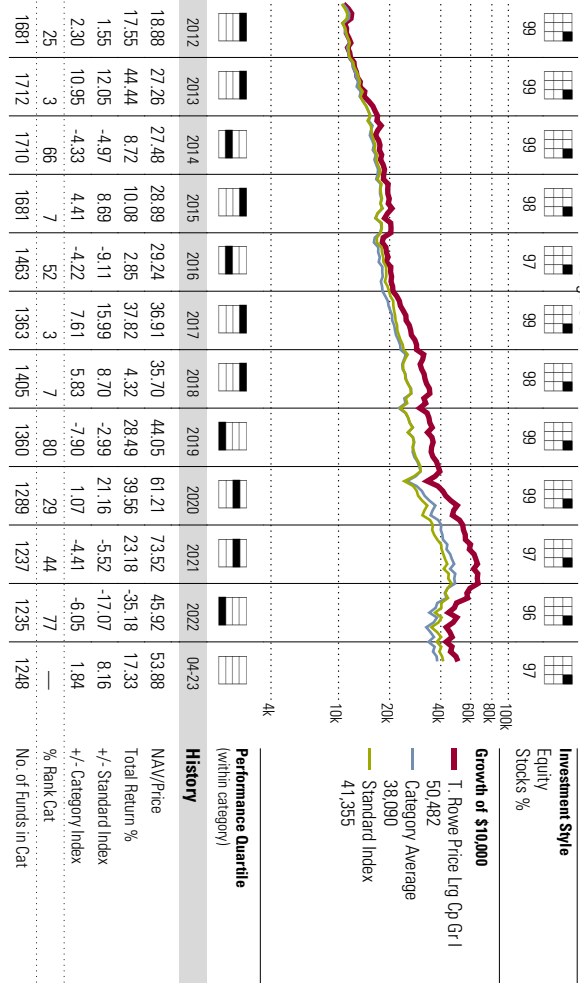
Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-638-5660 or visit [www.troweprice.com](http://www.troweprice.com).

Fees and Expenses	
Sales Charges	
Front-End Load %	NA
Deferred Load %	NA
Fund Expenses	
Management Fees %	0.55
12bt Expense %	NA
Net Expense Ratio %	0.55
Gross Expense Ratio %	0.55
Risk and Return Profile	

Morningstar Rating™	3★	3★	5★
Morningstar Risk	Avg	Avg	+Avg
Morningstar Return	Avg	Avg	High
Standard Deviation	3 Yr 21.65	5 Yr 20.86	10 Yr 17.24
Mean	9.54	10.35	14.66
Sharpe Ratio	0.47	0.50	0.83
MPT Statistics	Standard Index	Best Fit Index	Morningstar US LM
Alpha	-5.35	-1.31	0.96
Beta	1.11	0.96	0.96
R-Squared	86.28	97.20	97.20
12-Month Yield	—		
Potential Cap Gains Exp	34.43%		

Family:	T. Rowe Price
Manager:	Taymour Tamaddon
Tenure:	6.3 Years
Objective:	Growth

Morningstar Medalist Rating™	100.00	Analyst-Driven %	Morningstar Rating™	★★★★	Standard Index	Category Index	Morningstar Cat
Silver	Data Coverage %	1,123 US Fund	SSP 500 TR USD	Russell 1000 Growth TR	US Fund Large Growth		
08-12-2022	100.00						



Portfolio Analysis 03-31-2023									
Asset Allocation %		Net %	Long %	Short %	Share Clng since 12-2022	Share Holdings: Amount	Holdings: 56 Total Stocks, 0 Total Fixed-Income, 18% Turnover Ratio	NAV/Price	Net Assets %
Cash	0.25	0.25	0.00	0.00	12-2022	7 mil	Microsoft Corp	50.482	13.03
US Stocks	94.12	94.12	0.00	0.00	12-2022	9 mil	Apple Inc	38.090	8.86
Non-US Stocks	3.38	3.38	0.00	0.00	12-2022	10 mil	Alphabet Inc Class A	41.355	6.25
Bonds	0.00	0.00	0.00	0.00	12-2022	9 mil	Amazon.com Inc		5.80
Other/Not Clsfd	2.25	2.25	0.00	0.00	12-2022	1 mil	Unitedhealth Group Inc		4.16
Total	100.00	100.00	0.00	0.00	12-2022	2 mil	NVIDIA Corp		3.97

Equity Style		Portfolio Statistics	
Value	Brand Growth	P/E Ratio TTM	31.6
Large	Med	P/C Ratio TTM	22.0
Med	Small	P/B Ratio TTM	6.3
Small	Med	Geo Avg Mkt Cap	301.495
Small	Med		1.54
Small	Med		1.02

Fixed-Income Style		Credit Quality Breakdown	
Lat	Med	Avg Eff Maturity	—
Med	Ext	Avg Eff Duration	—
Ext	High	Avg Wtd Coupon	—
High	Med	Avg Wtd Price	—
Med	Low		—
Low	Med		—

Credit Quality Breakdown	—	Bond %	—
AAA	AA	—	—
AA	AA	—	—
BBB	BB	—	—
BB	BB	—	—
B	B	—	—
Below B	NR	—	—
Regional Exposure	Stocks %	Rel Std Index	—
Americas	96.5	0.98	—
Greater Europe	2.4	2.27	—
Greater Asia	1.1	34.00	—
Sector Weightings	Stocks %	Rel Std Index	—
Cyclical	18.7	0.67	—
Basic Materials	0.3	0.12	—
Consumer Cyclical	12.8	1.26	—
Financial Services	5.6	0.44	—
Real Estate	0.0	0.00	—
Sensitive	61.5	1.29	—
Communication Services	12.1	1.46	—
Energy	0.0	0.00	—
Industrials	2.8	0.34	—
Technology	46.6	1.76	—
Defensive	19.8	0.80	—
Consumer Defensive	1.6	0.22	—
Healthcare	18.2	1.26	—
Utilities	0.0	0.00	—

Base Currency:	USD	Purchase Constraints:	—
Ticker:	TRLGX	Incept:	10-31-2001
SIN:	US45775L4086	Type:	MF
Minimum Initial Purchase:	\$500,000	Total Assets:	\$16,410.77 mil

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# Vanguard International Growth Adm (USD)

Performance 04-30-2023							
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %		
2021	-1.03	7.49	-4.05	-2.76	-0.74		
2022	-16.45	-18.13	-10.16	12.62	-30.75		
2023	12.50	—	—	—	-10.65		
Trading Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incep		
Load-adj Mthly	3.16	8.92	6.24	8.31	7.51		
Std 03-31-2023	-6.81	—	6.54	8.79	7.65		
Total Return	3.16	8.92	6.24	8.31	7.51		
+/- Std Index	0.11	-0.82	3.74	4.34	—		
+/- Cat Index	0.96	2.05	2.83	3.44	—		
% Rank Cat	69	46	19	6			
No. in Cat	449	403	350	234			

**Performance Disclosure**  
The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-662-7447 or visit [www.vanguard.com](http://www.vanguard.com)

## Fees and Expenses

Sales Charges	NA
Front-End Load %	NA
Deferred Load %	NA

### Fund Expenses

Management Fees %	0.3%
12b1 Expense %	N/A

### Gross Expense Ratio

## Risk and Return Profile

## Risk and Return Profile

Morningstar Rating™	3 Yr 403 funds	5 Yr 350 funds	10 Yr 234 funds
Morningstar Risk	3★	3★	4★
Morningstar Return	Avg	High +Avg	High

	3 Yr	5 Yr	10 Yr
Standard Deviation	24.51	22.64	18.65
Mean	8.92	6.24	8.33
Sharpe Ratio	0.41	0.31	0.47

## MPT Statistics

Alpha	-2.12	1.10
Beta	1.30	1.33
R-Squared	80.89	90.76

12-Month Yield  
Potential Cap Gains Exp

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## Operations

Family:	Vanguard
Manager:	Multiple
Tenure:	13.4 Years
Objective:	Foreign Stock

[illegible]

## Portfolio Analysis 03-31-2023

Asset Allocation %	Net %	Long %	Short %	Share Chg since 01-2023	Share Holdings : 121 Total Stocks, 0 Total Fixed-Income, 15% Turnover Ratio	Net Asset %
Cash	2.57	2.98	0.41			
US Stocks	11.76	11.76	0.00		2 mi Mercadolibre Inc	5.4%
Non-US Stocks	84.82	84.82	0.00		4 mi ASML Holding NV	5.2%
Bonds	0.00	0.00	0.00	⊖	1 mi Adevyn NV	3.7%
Other/Not Csf'd	0.85	0.85	0.00	⊕	31 mi Tencent Holdings Ltd	3.3%
Total	100.00	100.41	0.41	⊖	9 mi Moderna Inc	3.1%

## Equity Style

	White	Bleed	Growth
P/E Ratio TTM	20.4	1.53	1.03
P/C Ratio TTM	15.0	1.67	1.03
P/B Ratio TTM	3.5	2.09	1.15
Geo Avg Mkt Cap \$mil	58206	1.34	1.05

### Fixed-Income Style

	Low	Med	High
Avg Eff Maturity			
Avg Eff Duration			
Avg Wtd Coupon			
Avg Wtd Price			

### Credit Quality Breakdown —

AAA	_____
AA	_____
A	_____
BBB	_____
BB	_____
B	_____
Below B	_____
NR	_____

## Regional Exposure

Americas	20.1	1.90
Greater Europe	51.8	1.11
Greater Asia	28.1	0.66

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Base Currency:	USD
Ticker:	VWVLX
ISIN:	US9219105015
Minimum Initial Purchase:	\$50,000

Standard Index		Category Index		Morningstar Cat																																																																																																																																																																	
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Cat</div></div><div><div></div><div>No. of Funds in Cat</div></div></div> <div><div><div><div></div><div>Share Chg</div></div><div><div></div><div>Amount</div></div><div><div></div><div>Holdings : 121 Total Stocks, 0 Total Fixed-Income, 15% Turnover Ratio</div></div></div><div><div></div><div>Net Assets</div></div><div><div></div><div>%</div></div></div> <table><tr><th>Share Chg 01-2023</th><th>Share Amount</th><th>Holdings : 121 Total Stocks, 0 Total Fixed-Income, 15% Turnover Ratio</th><th>NAV/Price</th><th>Total Return %</th><th>+/- Standard Index</th><th>+/- Category Index</th><th>% Rank Cat</th><th>No. of Funds in Cat</th><th>Net Assets %</th></tr><tr><td>➔</td><td>2 mil</td><td>Mercadolibre Inc</td><td>5.45</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>➔</td><td>4 mil</td><td>ASML Holding NV</td><td>5.25</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>➕</td><td>1 mil</td><td>Adyen NV</td><td>3.77</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>➔</td><td>31 mil</td><td>Tencent Holdings Ltd</td><td>3.30</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>9 mil</td><td>Moderna Inc</td><td>3.16</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>➔</td><td>81 mil</td><td>Taiwan Semiconductor Manufacturing</td><td>3.05</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>➔</td><td>2 mil</td><td>Kering SA</td><td>3.06</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>➔</td><td>9 mil</td><td>Spotify Technology SA</td><td>2.77</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>➔</td><td>2 mil</td><td>Gemrab A/S</td><td>2.05</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>➔</td><td>30 mil</td><td>Vestas Wind Systems A/S</td><td>1.90</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>➔</td><td>48 mil</td><td>Meituan Class B</td><td>1.90</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>➔</td><td>2 mil</td><td>argenx SE</td><td>1.88</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>➔</td><td>3 mil</td><td>Ferrari NV</td><td>1.77</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>3 mil</td><td>Illumina Inc</td><td>1.64</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>2 mil</td><td>L'Oreal SA</td><td>1.55</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> 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%</div></div><div><div></div><div>35.1</div></div></div><div><div><div><div></div><div>Rel Std Index</div></div><div><div></div><div>0.84</div></div></div></div><div><div><div><div></div><div>Basic Materials</div></div><div><div></div><div>0.4</div></div></div><div><div><div><div></div><div>Consumer Cyclical</div></div><div><div></div><div>25.5</div></div></div><div><div><div><div></div><div>Financial Services</div></div><div><div></div><div>9.1</div></div></div><div><div><div><div></div><div>Real Estate</div></div><div><div></div><div>0.0</div></div></div></div><div><div><div><div></div><div>Sensitive</div></div><div><div></div><div>42.3</div></div></div><div><div><div><div></div><div>Communication Services</div></div><div><div></div><div>7.5</div></div></div><div><div><div><div></div><div>Energy</div></div><div><div></div><div>1.5</div></div></div><div><div><div><div></div><div>Industrials</div></div><div><div></div><div>11.4</div></div></div><div><div><div><div></div><div>Technology</div></div><div><div></div><div>21.9</div></div></div></div><div><div><div><div></div><div>Defensive</div></div><div><div></div><div>22.6</div></div></div><div><div><div><div></div><div>Consumer Defensive</div></div><div><div></div><div>5.1</div></div></div><div><div><div><div></div><div>Healthcare</div></div><div><div></div><div>16.7</div></div></div><div><div><div><div></div><div>Utilities</div></div><div><div></div><div>0.9</div></div></div></div></div></div></div></div></div></div></div></div></div></div></div></div>						Share Chg 01-2023	Share Amount	Holdings : 121 Total Stocks, 0 Total Fixed-Income, 15% Turnover Ratio	NAV/Price	Total Return %	+/- Standard Index	+/- Category Index	% Rank Cat	No. of Funds in Cat	Net Assets %	➔	2 mil	Mercadolibre Inc	5.45							➔	4 mil	ASML Holding NV	5.25							➕	1 mil	Adyen NV	3.77							➔	31 mil	Tencent Holdings Ltd	3.30								9 mil	Moderna Inc	3.16							➔	81 mil	Taiwan Semiconductor Manufacturing	3.05							➔	2 mil	Kering SA	3.06							➔	9 mil	Spotify Technology SA	2.77							➔	2 mil	Gemrab A/S	2.05							➔	30 mil	Vestas Wind Systems A/S	1.90							➔	48 mil	Meituan Class B	1.90							➔	2 mil	argenx SE	1.88							➔	3 mil	Ferrari NV	1.77								3 mil	Illumina Inc	1.64								2 mil	L'Oreal SA	1.55						
Share Chg 01-2023	Share Amount	Holdings : 121 Total Stocks, 0 Total Fixed-Income, 15% Turnover Ratio	NAV/Price	Total Return %	+/- Standard Index	+/- Category Index	% Rank Cat	No. of Funds in Cat	Net Assets %																																																																																																																																																												
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➔	4 mil	ASML Holding NV	5.25																																																																																																																																																																		
➕	1 mil	Adyen NV	3.77																																																																																																																																																																		
➔	31 mil	Tencent Holdings Ltd	3.30																																																																																																																																																																		
	9 mil	Moderna Inc	3.16																																																																																																																																																																		
➔	81 mil	Taiwan Semiconductor Manufacturing	3.05																																																																																																																																																																		
➔	2 mil	Kering SA	3.06																																																																																																																																																																		
➔	9 mil	Spotify Technology SA	2.77																																																																																																																																																																		
➔	2 mil	Gemrab A/S	2.05																																																																																																																																																																		
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➔	3 mil	Ferrari NV	1.77																																																																																																																																																																		
	3 mil	Illumina Inc	1.64																																																																																																																																																																		
	2 mil	L'Oreal SA	1.55																																																																																																																																																																		

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Vanguard International Value Inv (USD)

Performance 04-30-2023					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	5.74	3.97	-3.66	1.95	7.97
2022	-5.10	-11.38	-9.27	15.76	-11.66
2023	8.67	—	—	—	10.13
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly Std 03-31 -2023	8.57	13.11	3.34	4.60	8.27
	1.16	—	3.19	4.96	8.25
Total Return	8.57	13.11	3.34	4.60	8.27
+/- Std Index	5.52	3.37	0.84	0.64	—
+/- Cat Index	4.81	0.69	2.07	1.73	—
% Rank Cat	40	48	25	24	
No. in Cat	364	329	307	193	

**Performance Disclosure**  
The overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-662-7447 or visit [www.vanguard.com](http://www.vanguard.com).

Fees and Expenses

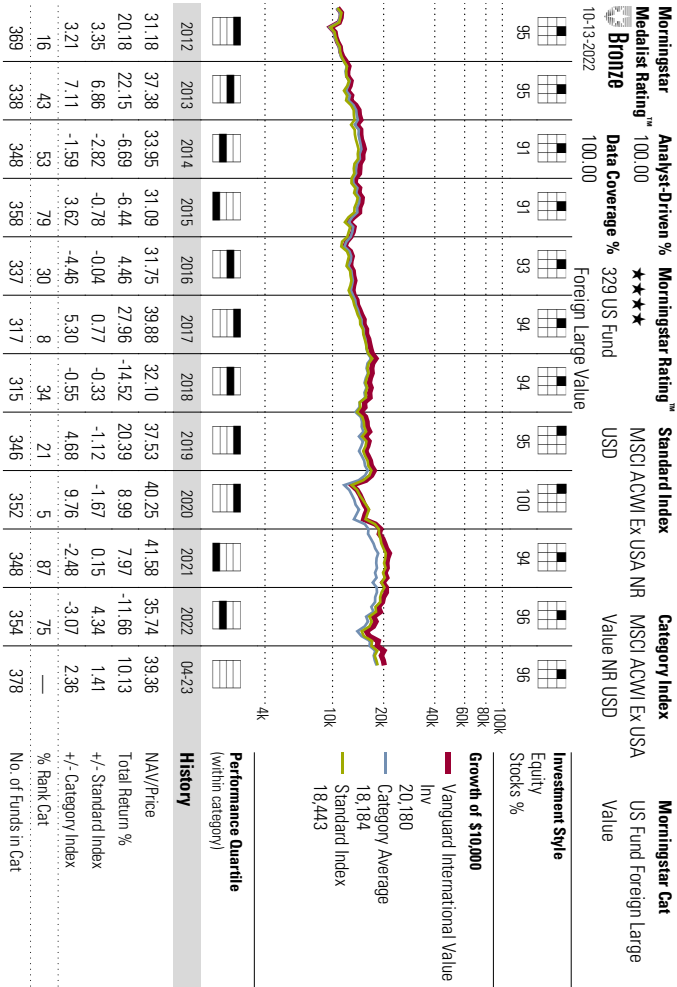
Sales Charges	
Front-End Load %	NA
Deferred Load %	NA

Fund Expenses	
Management Fees %	0.36
12b1 Expense %	NA
Net Expense Ratio %	0.38
Gross Expense Ratio %	0.38

Risk and Return Profile					
Morningstar Rating™	3 Yr	5 Yr	10 Yr		
	329 funds	307 funds	193 funds		
	3★	4★	4★		
	Avg	Avg	Avg		
Morningstar Risk	Avg	Avg	Avg		
Morningstar Return	Avg	+Avg	+Avg		

Standard Deviation	3 Yr	5 Yr	10 Yr
	18.95	19.15	15.88
Mean	13.11	3.34	4.60
Sharpe Ratio	0.68	0.19	0.30
MPT Statistics	Standard Index	Best Fit Index	Morningstar Chl
	USD	xUS Val TME NR	NR
Alpha	2.62	-0.50	
Beta	1.08	1.05	
R-Squared	93.14	95.61	
12-Month Yield			
Potential Cap Gains Exp		-11.12%	

Operations	
Family:	Vanguard
Manager:	Multiple
Tenure:	13.0 Years
Objective:	Foreign Stock



Portfolio Analysis 03-31-2023									
Asset Allocation %		Net %	Long %	Short %	Share Clng since 01-2023	Share Amount	Holdings: 191 Total Stocks: 0 Total Fixed-Income, 37% Turnover Ratio	Net Assets %	
Cash		3.86	3.86	0.00	⊕	24 mil	Alibaba Group Holding Ltd Ordinary	2.25	
US Stocks		4.54	4.54	0.00		39 mil	HSBC Holdings PLC	1.94	
Non-US Stocks		91.60	91.60	0.00		2 mil	Airbus SE	1.64	
Bonds		0.00	0.00	0.00		35 mil	BP PLC	1.62	
Other/Not Clsfd		0.00	0.00	0.00	⊖	3 mil	Holcim Ltd	1.57	
Total		100.00	100.00	0.00		20 mil	AVA Group Ltd	1.56	
Equity Style						5 mil	RELX PLC	1.25	
Value Blend Growth						3 mil	Tencent Holdings Ltd	1.22	
Large					⊕	1 mil	Baidu Inc ADR	1.19	
Mid						2 mil	Ryanair Holdings PLC ADR	1.16	
Small						3 mil	TotalEnergies SE	1.15	
Geo Avg Mkt Cap		31297	0.72	0.92		44 mil	Sands China Ltd Shs Unitary 144A/R	1.12	

Fixed-Income Style				
Ltd	Med	Ext	Avg Eff Maturity	—
			Avg Eff Duration	—
			Avg Wtd Coupon	—
			Avg Wtd Price	—
Credit Quality Breakdown —				
AAA				Bond %
AA				—
A				—
BBB				—
BB				—
B				—
Below B				—
NR				—
Regional Exposure				
Americas			Stocks %	Rel Std Index
Greater Europe			10.4	0.98
Greater Asia			49.7	1.06
			39.9	0.94
				⚡

Sector Weightings			Stocks %	Rel Std Index
⊕ Cyclical			43.5	1.04
Basic Materials			11.0	1.38
Consumer Cyclical			17.5	1.58
Financial Services			14.3	0.70
Real Estate			0.7	0.30
⚡ Sensitive			40.4	1.12
Communication Services			5.7	0.95
Energy			6.0	1.02
Industrials			18.9	1.45
Technology			9.9	0.87
→ Defensive			16.1	0.73
Consumer Defensive			6.3	0.71
Healthcare			7.3	0.72
Utilities			2.5	0.81

Purchase Constraints:	—
Incept:	05-16-1983
Type:	MIF
Total Assets:	\$13,733.38 mil

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Vanguard Small Cap Growth Index Admiral (USD)

Performance 04-30-2023

Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	2.56	5.81	-3.16	0.58	5.70
2022	-11.94	-20.44	-0.79	3.02	-28.39
2023	8.18	—	—	—	6.71
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly Std 03-31-2023	-2.55	7.37	5.97	8.75	10.82
	-12.03	—	6.32	8.85	11.03
Total Return	-2.55	7.37	5.97	8.75	10.82
+/- Std Index	-5.21	-7.15	-5.47	-3.45	—
+/- Cat Index	-3.27	-0.44	1.98	0.32	—
% Rank Cat	47	73	60	70	—
No. in Cat	592	561	522	388	—

7-day Yield —  
30-day SEC Yield 05-09-23 0.60 0.60

**Performance Disclosure**  
The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

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Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-662-7447 or visit www.vanguard.com.

**Sales Charges**  
**Front-End Load %** NA  
**Deferred Load %** NA

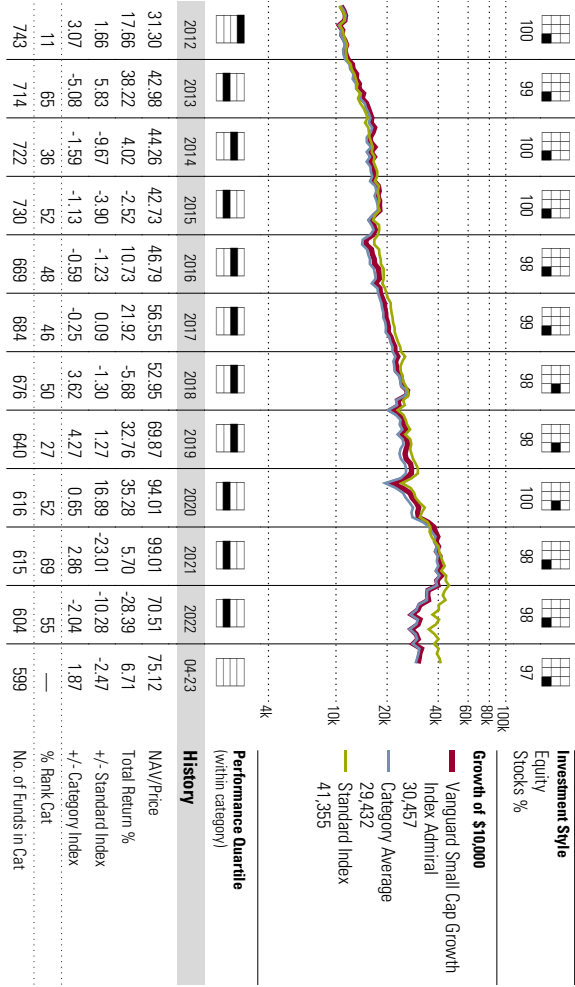
**Fund Expenses**  
Management Fees % 0.06  
1201 Expense % NA  
**Net Expense Ratio %** 0.07  
**Gross Expense Ratio %** 0.07

**Risk and Return Profile**

Equity Style	3 Yr	5 Yr	10 Yr
Morningstar Rating™	3★	3★	3★
Morningstar Risk	Avg	Avg	-Avg
Morningstar Return	-Avg	Avg	-Avg
Standard Deviation	21.86	23.54	18.70
Mean	7.37	5.97	8.75
Sharpe Ratio	0.37	0.30	0.49
MFT Statistics	Standard Index	Best Fit Index	
Alpha	-6.20	Morningstar US SmI	
Beta	1.03	Bnd Grt Ext TR USD	-1.04
R-Squared	72.37		
12-Month Yield			0.67%
Potential Cap Gains Exp			-17.17%

**Operations**  
Family: Vanguard  
Manager: Multiple  
Tenure: 18.4 Years  
Objective: Small Company

Morningstar Medalist Rating™ Gold  
Analyst-Driven % 100.00  
Data Coverage % 561 US Fund Small Growth



**Portfolio Analysis 03-31-2023**

Asset Allocation %	Net %	Long %	Short %	Share Cng since 02-2023	Share Amount	Holdings : 669 Total Stocks, 0 Total Fixed-Income, 24% Turnover Ratio	Net Assets %
Cash	2.57	2.57	0.00	—	—	—	—
US Stocks	96.72	96.72	0.00	—	356,865	Fair Isaac Corp	0.86
Non-US Stocks	0.71	0.71	0.00	—	3 mil	Targa Resources Corp	0.84
Bonds	0.00	0.00	0.00	—	3 mil	Liberty Formula One Group C	0.75
Other/Not Cstfd	0.00	0.00	0.00	—	956,814	Axon Enterprise Inc	0.73
Total	100.00	100.00	0.00	—	2 mil	PTC Inc	0.70

Equity Style	Portfolio Statistics	Port Avg Index	Rel Index Cat	Rel Index
Value Blend Growth	P/E Ratio TTM	22.2	1.05	1.09
	P/C Ratio TTM	15.9	1.04	0.94
	P/B Ratio TTM	3.5	0.92	0.98
	Geo Avg Mkt Cap	5320	0.03	1.07
Fixed-Income Style	Portfolio Statistics	Port Avg Index	Rel Index Cat	Rel Index
Ltd Med Ext	Avg Eff Maturity	—	—	—
	Avg Eff Duration	—	—	—
	Avg Wtd Coupon	—	—	—
	Avg Wtd Price	—	—	—
Credit Quality Breakdown	Bond %			
AAA	—	—	—	—
AA	—	—	—	—
A	—	—	—	—
BBB	—	—	—	—
BB	—	—	—	—
B	—	—	—	—
Below B	—	—	—	—
NR	—	—	—	—

Regional Exposure	Stocks %	Rel Std Index
Americas	99.3	1.00
Greater Europe	0.1	0.13
Greater Asia	0.6	18.47
Sector Weightings	Stocks %	Rel Std Index
↗ Cyclical	24.2	0.87
Basic Materials	2.3	0.98
Consumer Cyclical	12.2	1.20
Financial Services	3.6	0.29
Real Estate	6.1	2.31
↘ Sensitive	51.8	1.09
Communication Services	3.0	0.36
Energy	4.9	1.04
Industrials	16.4	2.01
Technology	27.5	1.04
↗ Defensive	23.9	0.97
Consumer Defensive	3.8	0.51
Healthcare	19.8	1.36
Utilities	0.4	0.15

Base Currency: USD  
Ticker: VSGAX  
ISIN: US9219377101  
Minimum Initial Purchase: \$3,000

Purchase Constraints: —  
Incept: 09-27-2011  
Type: MF  
Total Assets: \$13,131.30 mil

Vanguard Target Retirement 2025 Fund (USD)

Performance 04-30-2023					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	1.86	4.79	-0.65	3.55	9.80
2022	-5.51	-10.72	-5.59	6.03	-15.55
2023	5.28	—	—	—	6.24
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly Std 03-31-2023	0.93	6.12	4.94	6.26	6.35
	-5.91	—	4.77	6.35	6.33
Total Return	0.93	6.12	4.94	6.26	6.35
+/- Std Index	0.42	-0.21	-0.03	0.58	—
+/- Cat Index	2.14	1.30	0.48	0.71	—
% Rank Cat	22	41	36	18	
No. in Cat	214	189	171	102	

7-day Yield — Subsidized  
30-day SEC Yield 05-10-23 2.25 2.25

**Performance Disclosure**  
The overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

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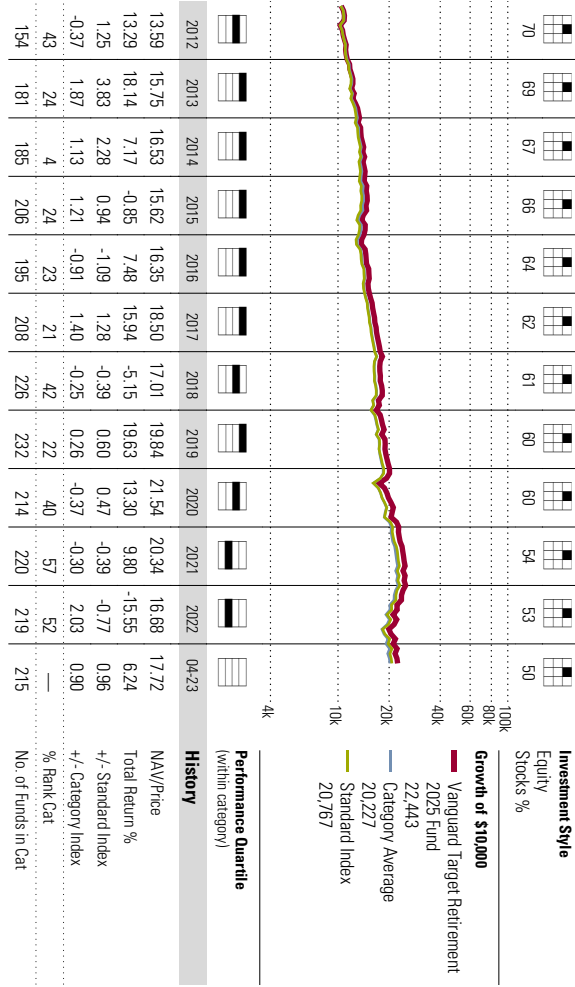
Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-662-7447 or visit www.vanguard.com.

Sales Charges	
Front-End Load %	NA
Deferred Load %	NA
Fund Expenses	
Management Fees %	0.00
12b1 Expense %	NA
Net Expense Ratio %	0.08
Gross Expense Ratio %	0.08
Risk and Return Profile	

Morningstar Rating™	3★	4★	4★
Morningstar Risk	Avg	+Avg	Avg
Morningstar Return	Avg	Avg	+Avg
Standard Deviation	11.71	11.78	9.57
Mean	6.12	4.94	6.26
Sharpe Ratio	0.45	0.34	0.58
MPT Statistics			
Alpha	0.00	0.91	0.58
Beta	0.96	0.91	
R-Squared	98.84	99.32	
12-Month Yield		2.06%	
Potential Cap Gains Exp		9.02%	

Family:	Vanguard
Manager:	Multiple
Tenure:	0.3 Year
Objective:	Asset Allocation

Morningstar Medalist Rating™	Analyst-Driven %	Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
Silver	100.00	★★★★	Morningstar Mod Tgt	Morningstar Lifetime	US Fund Target-Date
03-01-2023	Data Coverage % 100.00	189 US Fund	Risk TR USD	Mod 2025 TR USD	2025
	Target-Date 2025				



Portfolio Analysis 03-31-2023							Net Assets
Asset Allocation %	Net %	Long %	Short %	Share Chg since 02-2023	Share Amount	Holdings : 10,843 Total Stocks , 17,576 Total Fixed-Income, 14% Turnover Ratio	%
Cash	2.76	11.27	8.51				
US Stocks	32.32	32.32	0.00	➔	131 mil	Vanguard Total Stock Mkt Idd Instl	32.82
Non-US Stocks	21.59	21.59	0.00	➔	2,166 mil	Vanguard Total Bond Market II Idd	27.95
Bonds	43.30	43.40	0.10	➔	930 mil	Vanguard Total Intl Stock Index Inv	22.16
Other/Not Clsfd	0.03	0.03	0.00	➔	343 mil	Vanguard Total Intl Bnd Idd Instl	12.12
Total	100.00	108.61	8.61	➔	123 mil	Vanguard Srtf-Term Intl-Prot Sec I	3.95

Equity Style	Portfolio Statistics	Port Avg Index	Rel Cat	Rel	Sector Weightings	Stocks %	Rel Std Index
Value Blend Growth	P/E Ratio TTM	15.9	1.01	0.97	Basic Materials	34.3	0.87
Large	P/B Ratio TTM	11.7	1.05	0.96	Consumer Cyclical	4.9	0.93
Med	Geo Avg Mkt Cap	2.3	1.08	0.96	Financial Services	11.0	0.94
Small	\$mil	64354	1.41	0.90	Real Estate	15.0	0.97
Fixed-Income Style	Avg Eff Maturity	8.38	—	—	Consumer Defensive	3.3	0.48
Int	Avg Eff Duration	6.46	—	—	Communication Services	6.8	1.18
Med	Avg Wtd Coupon	2.45	—	—	Energy	4.8	0.96
Ext	Avg Wtd Price	92.56	—	—	Industrials	11.4	0.97
High			—	—	Technology	20.4	1.39
Low			—	—	Utilities	22.3	0.94

Credit Quality Breakdown 03-31-2023			
AAA	61.10	Bond %	22.3
AA	8.83	Consumer Defensive	7.1
A	15.49	Healthcare	12.3
BBB	13.91	Utilities	2.9
BB	0.00		
B	0.00		
Below B	0.38		
NR	0.29		
Regional Exposure			
Americas	63.8	Stocks %	1.03
Greater Europe	17.9	Rel Std Index	0.96
Greater Asia	18.3		0.95

Base Currency:	USD	Purchase Constrains:	—
Ticker:	VTTXX	Incept	10-27-2003
ISIN:	US92202E4098	Type:	MFE
Minimum Initial Purchase:	\$1,000	Total Assets:	\$74,744.19 mil

Vanguard Target Retirement 2030 Fund (USD)

Performance 04-30-2023					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	2.49	5.25	-0.78	4.06	11.38
2022	-5.65	-11.67	-5.93	6.81	-16.27
2023	5.67	—	—	—	6.69
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly Std 03-31-2023	1.13	7.22	5.36	6.78	6.31
	-6.22	—	5.21	6.89	6.28
Total Return	1.13	7.22	5.36	6.78	6.31
+/- Std Index	0.62	0.90	0.39	1.10	—
+/- Cat Index	2.04	1.10	0.54	0.59	—
% Rank Cat	27	52	39	26	
No. in Cat	216	189	169	96	
7-day Yield	Subsidized		Unsubsidized		
30-day SEC Yield 05-10-23	2.11		2.11		

**Performance Disclosure**  
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Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-662-7447 or visit www.vanguard.com.

Fees and Expenses

Sales Charges	
Front-End Load %	NA
Deferred Load %	NA

Fund Expenses	
Management Fees %	0.00
12bl Expense %	NA
Net Expense Ratio %	0.08
Gross Expense Ratio %	0.08
Risk and Return Profile	

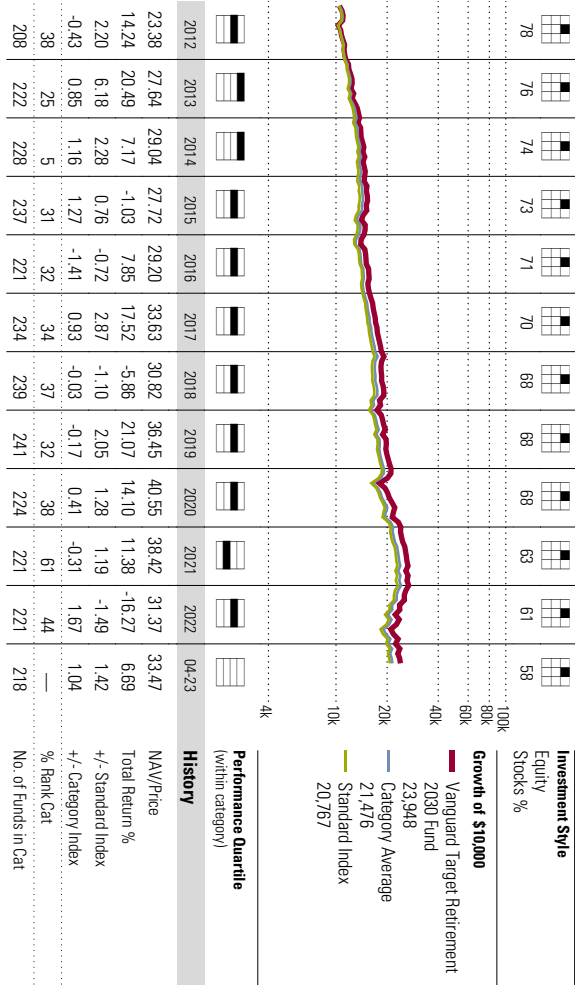
Morningstar Rating™	3★	3★	4★	4★
Morningstar Risk	Avg	Avg	Avg	Avg
Morningstar Return	Avg	Avg	+Avg	

Standard Deviation	12.81	13.01	10.56	
Mean	7.22	5.36	6.78	
Sharpe Ratio	0.51	0.35	0.58	

MPT Statistics	Standard Index	Best Fit Index
	Morningstar Gbl Allocation TR USD	Morningstar Gbl Allocation TR USD
Alpha	0.67	1.30
Beta	1.05	1.00
R-Squared	98.97	99.31
12-Month Yield		1.91%
Potential Cap Gains Exp		7.70%

Operations	
Family:	Vanguard
Manager:	Multiple
Tenure:	0.3 Year
Objective:	Asset Allocation

Morningstar Medalist Rating™	Analyst-Driven %	Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
Silver	100.00	★★★★	Morningstar Mod Tgt	Morningstar Lifetime	US Fund Target-Date
03-01-2023	Data Coverage % 100.00	189 US Fund	Risk TR USD	Mod 2030 TR USD	2030
	Target-Date 2030				



Portfolio Analysis 03-31-2023

Asset Allocation %	Net %	Long %	Short %	Share Cng since 02-2023	Holdings : Amount	10,929 Total Stocks, 17,394 Total Fixed-Income, 11 % Turnover Ratio	Net Assets %
Cash	2.71	10.26	7.55	⊕	164 mil	Vanguard Total Stock Mkt ldx Instl	37.74
US Stocks	37.17	37.17	0.00	⊕	1.178 mil	Vanguard Total Intl Stock Index Inv	25.86
Non-US Stocks	25.18	25.18	0.00	⊖	2,070 mil	Vanguard Total Bond Market ll ldx	24.61
Bonds	34.91	34.99	0.09	⊕	330 mil	Vanguard Total Intl Bd ll ldx Instl	10.74
Other/Not Cstfd	0.03	0.03	0.00				
Total	100.00	107.64	7.64				

Equity Style	Portfolio Statistics	Port Avg Index	Rel Cat	Rel Index	Sector Weightings	Stocks %	Rel Std Index
Value Blend Growth	P/E Ratio TTM	15.9	1.01	0.96	⚙️ Cyclical	34.3	0.87
Large	P/B Ratio TTM	11.7	1.04	0.95	🏠 Basic Materials	5.0	0.93
Med	P/B Ratio TTM	2.3	1.08	0.93	👤 Consumer Cyclical	11.0	0.94
Small	Geo Avg Mkt Cap \$mil	64035	1.40	0.89	🏢 Financial Services	15.1	0.97
					🏠 Real Estate	3.3	0.48

Fixed-Income Style					
Ltd	Med	Ext			

Credit Quality Breakdown 03-31-2023					
AAA	57.38	Bond %	➡️ Consumer Defensive	7.1	0.95
AA	9.69		🏠 Healthcare	12.2	0.98
A	16.97		🏢 Utilities	2.9	0.81

Regional Exposure	Stocks %	Rel Std Index		
Americas	63.5	1.02		
Greater Europe	18.0	0.96		
Greater Asia	18.5	0.96		

Base Currency:	USD	Purchase Constrains:	—
Ticker:	VTHRX	Incept	06-07-2006
ISIN:	US92202E8883	Type:	MFE
Minimum Initial Purchase:	\$1,000	Total Assets:	\$81,750.47 mil

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Vanguard Target Retirement 2035 Fund (USD)

Performance 04-30-2023					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	3.17	5.65	-0.87	4.55	12.96
2022	-5.66	-12.41	-6.09	7.45	-16.62
2023	5.94	—	—	—	7.08
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly Std 03-31-2023	1.41	8.43	5.83	7.33	7.09
	-6.36	—	5.68	7.43	7.06
Total Return	1.41	8.43	5.83	7.33	7.09
+/- Std Index	0.90	2.11	0.86	1.65	—
+/- Cat Index	1.72	0.54	0.55	0.53	—
% Rank Cat	29	61	43	31	
No. in Cat	207	182	168	99	

7-day Yield —  
30-day SEC Yield 05-10-23 2.11 2.11

**Performance Disclosure**  
The overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

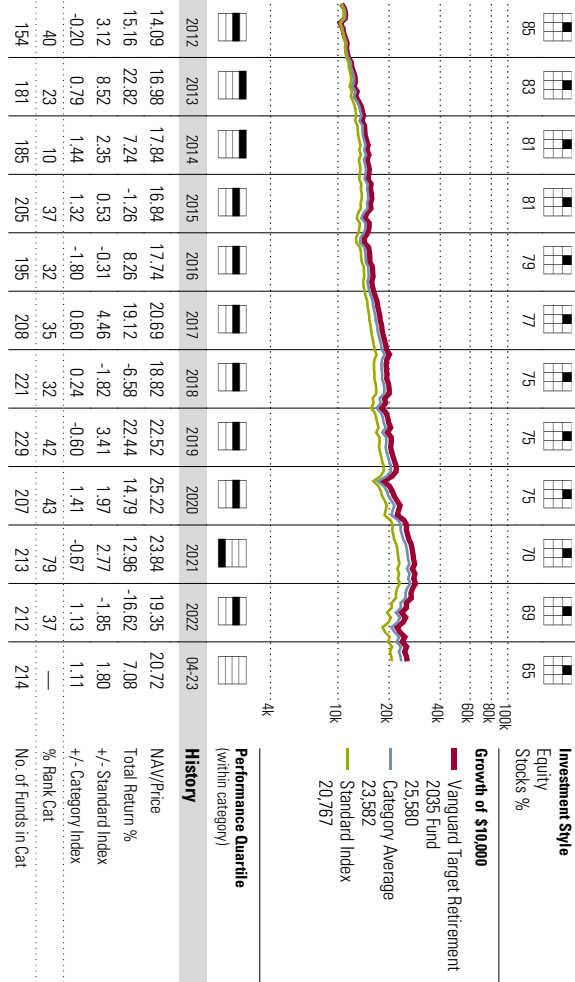
Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-662-7447 or visit www.vanguard.com.

Sales Charges	
Front-End Load %	NA
Deferred Load %	NA
Fund Expenses	
Management Fees %	0.00
12b1 Expense %	NA
Net Expense Ratio %	0.08
Gross Expense Ratio %	0.08
Risk and Return Profile	

Morningstar Rating™	3 Yr	5 Yr	10 Yr
Morningstar Risk	3★	3★	4★
Morningstar Return	-Avg	-Avg	-Avg
	Avg	Avg	+Avg
Standard Deviation	3 Yr 13.78	5 Yr 14.16	10 Yr 11.53
Mean	8.43	5.83	7.33
Sharpe Ratio	0.56	0.36	0.59
MPT Statistics	Standard Index	Best Fit Index	Morningstar Gbl Allocation TR USD
Alpha	1.48	2.17	
Beta	1.12	1.07	
R-Squared	98.94	99.12	
12-Month Yield		1.93%	
Potential Cap Gains Exp		10.78%	

**Operations**  
Family: Vanguard  
Manager: Multiple  
Tenure: 10.3 Years  
Objective: Asset Allocation

Morningstar Medalist Rating™	Analyst-Driven %	Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
Silver	100.00	★★★★	Morningstar Mod Tgt	Morningstar Lifetime	US Fund Target-Date
03-01-2023	Data Coverage % 100.00	182 US Fund	Risk TR USD	Mod 2035 TR USD	2035
	Target-Date 2035				



Portfolio Analysis 03-31-2023					
Asset Allocation %	Net %	Long %	Short %	Share Cng since 02-2023	Share Holdings : 11,018 Total Stocks , 17,100 Total Fixed-Income, 9% Turnover Ratio
Cash	2.91	8.89	5.98		
US Stocks	41.20	41.20	0.00	⊕	180 mil Vanguard Total Stock Mkt Idx Instl
Non-US Stocks	28.04	28.04	0.00	⊖	1,304 mil Vanguard Total Intl Stock Index Inv
Bonds	27.81	27.88	0.07	⊖	1,645 mil Vanguard Total Bond Market II Idx
Other/Not Cstfd	0.04	0.04	0.00	⊕	260 mil Vanguard Total Intl Bnd II Idx Instl
Total	100.00	106.05	6.05		

Equity Style	Portfolio Statistics	Port Avg Index	Rel Index Cat	Rel Index Cat	Sector Weightings	Stocks %	Rel Std Index
Value Blend Growth	P/E Ratio TTM	15.9	1.01	0.97	⊖ Cyclical	34.3	0.87
Large	P/C Ratio TTM	11.7	1.04	0.96	⊖ Basic Materials	5.0	0.93
Med	P/B Ratio TTM	2.3	1.08	0.95	⊖ Consumer Cyclical	11.0	0.94
Small	Geo Avg Mkt Cap	63933	1.40	0.91	⊖ Financial Services	15.1	0.97
	\$mil				⊖ Real Estate	3.3	0.48
Fixed-Income Style	Avg Eff Maturity	8.93			⊖ Sensitive	43.4	1.17
Int	Avg Eff Duration	6.84			⊖ Communication Services	6.8	1.24
Med	Avg Wtd Coupon	2.63			⊖ Energy	4.8	0.96
Ext	Avg Wtd Price	92.03			⊖ Industrials	11.4	0.97
					⊖ Technology	20.4	1.39
Credit Quality Breakdown 03-31-2023	Bond %	57.48			⊖ Defensive	22.3	0.94
AAA		9.64			⊖ Consumer Defensive	7.1	0.95
AA		16.93			⊖ Healthcare	12.2	0.98
A		15.21			⊖ Utilities	2.9	0.81
BBB		0.00					
BB		0.00					
B		0.00					
Below B		0.42					
NR		0.32					

Regional Exposure	Stocks %	Rel Std Index
Americas	63.4	1.02
Greater Europe	18.1	0.97
Greater Asia	18.5	0.96

Base Currency: USD  
Ticker: VTHX  
ISIN: US92202E5087  
Minimum Initial Purchase: \$1,000

Purchase Constraints: 10-27-2003  
Type: MFE  
Total Assets: \$81,468.22 mil

Vanguard Target Retirement 2040 Fund (USD)

Performance 04-30-2023					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	3.82	6.11	-0.98	5.02	14.56
2022	-5.66	-13.17	-6.33	8.20	-16.98
2023	6.21	—	—	—	7.38
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly Std 03-31-2023	1.66	9.62	6.27	7.80	6.90
	-6.53	—	6.12	7.91	6.87
Total Return	1.66	9.62	6.27	7.80	6.90
+/- Std Index	1.14	3.29	1.31	2.12	—
+/- Cat Index	1.33	0.08	0.58	0.59	—
% Rank Cat	30	63	40	31	
No. in Cat	211	183	169	96	

7-day Yield — Subsidized Unsubsidized  
30-day SEC Yield 05-10-23 2.11 2.11

**Performance Disclosure**  
The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

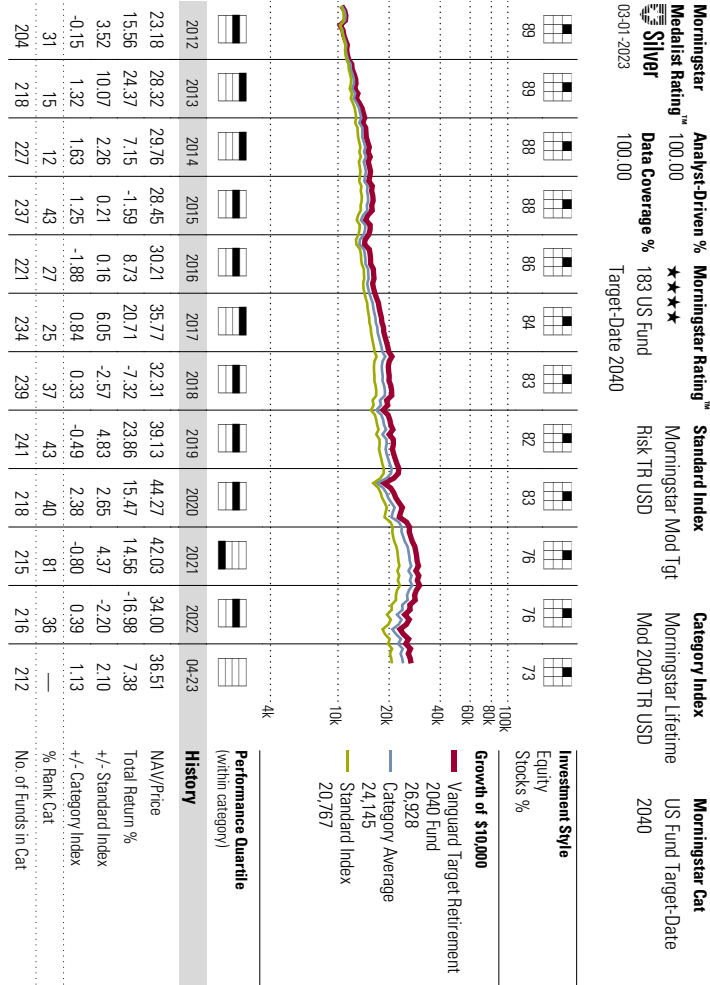
The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-662-7447 or visit www.vanguard.com.

Sales Charges	
Front-End Load %	NA
Deferred Load %	NA
Fund Expenses	
Management Fees %	0.00
12b1 Expense %	NA
Net Expense Ratio %	0.08
Gross Expense Ratio %	0.08
Risk and Return Profile	

Morningstar Rating™					
183 funds	3 Yr	169 funds	5 Yr	96 funds	10 Yr
Morningstar Risk	3★	-Avg	3★	-Avg	4★
Morningstar Return	Avg	Avg	Avg	Avg	+Avg
Standard Deviation					
Mean	14.75	15.32	12.47	10 Yr	
Sharpe Ratio	9.62	6.27	7.80		
	0.61	0.37	0.59		
MPT Statistics					
	Standard Index	Best Fit Index	MSCI ACWI NR	USD	
Alpha	2.28	-0.93			
Beta	1.20	0.86			
R-Squared	98.74	99.40			
12-Month Yield	1.95%				
Potential Cap Gains Exp	10.64%				

Operations	
Family:	Vanguard
Manager:	Multiple
Tenure:	0.3 Year
Objective:	Asset Allocation



Portfolio Analysis 03-31-2023			
Asset Allocation %			
Cash	3.06	7.48	4.42
US Stocks	45.61	45.61	0.00
Non-US Stocks	30.54	30.54	0.00
Bonds	20.75	20.80	0.05
Other/Not Csf'd	0.04	0.04	0.00
Total	100.00	104.47	4.47
Sector Weightings			
Basic Materials	4.9	11.0	0.94
Consumer Cyclical	11.0	15.0	0.97
Financial Services	15.0	15.0	0.97
Real Estate	3.3	3.3	0.48
Communication Services	6.8	6.8	1.18
Energy	4.8	4.8	0.96
Industrials	11.4	11.4	0.97
Technology	20.4	20.4	1.39
Consumer Defensive	7.1	7.1	0.95
Healthcare	12.3	12.3	0.98
Utilities	2.9	2.9	0.81

Equity Style		Portfolio Statistics	
Value	Blend	P/E Ratio TTM	15.9
Blend	Growth	P/B Ratio TTM	11.7
Large	Small	P/B Ratio TTM	2.3
		Geo Avg Mkt Cap	64298
		\$mil	1.41
			0.96
Fixed-Income Style		Credit Quality Breakdown 03-31-2023	
Int	Med	Avg Eff Maturity	8.93
	Ext	Avg Eff Duration	6.83
		Avg Wtd Coupon	2.64
		Avg Wtd Price	92.04
			92.04
Credit Quality Breakdown 03-31-2023		Sector Weightings	
AAA	57.65	Basic Materials	4.9
AA	9.56	Consumer Cyclical	11.0
A	16.87	Financial Services	15.0
BBB	15.19	Real Estate	3.3
BB	0.00	Communication Services	6.8
B	0.00	Energy	4.8
Below B	0.41	Industrials	11.4
NR	0.31	Technology	20.4
Regional Exposure		Defensive	
Americas	63.8	Consumer Defensive	22.3
Greater Europe	17.9	Healthcare	7.1
Greater Asia	18.3	Utilities	2.9

Base Currency: USD	
Ticker:	VFORX
ISIN:	US92202E8701
Minimum Initial Purchase:	\$1,000

Purchase Constraints:	
Incept:	06-07-2006
Type:	MFE
Total Assets:	\$71,024.21 mil

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Vanguard Target Retirement 2045 Fund (USD)

Performance 04-30-2023					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	4.47	6.55	-1.08	5.49	16.16
2022	-5.67	-13.33	-6.51	8.89	-17.36
2023	6.49	—	—	—	7.76
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly Std 03-31-2023	1.91	10.84	6.75	8.12	7.69
Total Return	1.91	10.84	6.75	8.12	7.69
+/- Std Index	1.40	4.51	1.78	2.44	—
+/- Cat Index	1.14	0.27	0.82	0.74	—
% Rank Cat	33	42	33	21	—
No. in Cat	207	182	168	99	—

7-day Yield	Subsidized	Unsubsidized
30-day SEC Yield 05-10-23	2.10	2.10

**Performance Disclosure**  
The overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-662-7447 or visit www.vanguard.com.

Fees and Expenses

Sales Charges	
Front-End Load %	NA
Deferred Load %	NA

Fund Expenses	
Management Fees %	0.00
1201 Expense %	NA
Net Expense Ratio %	0.08
Gross Expense Ratio %	0.08
Risk and Return Profile	

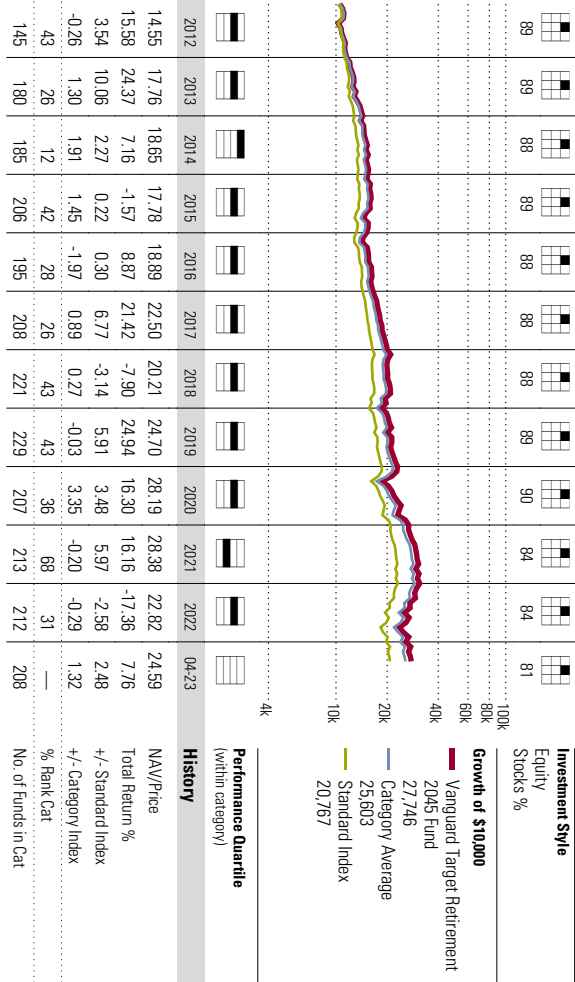
Morningstar Rating™	3★	4★	4★
Morningstar Risk	-Avg	Avg	-Avg
Morningstar Return	Avg	+Avg	+Avg

Standard Deviation	3 Yr	5 Yr	10 Yr
Mean	15.76	16.43	13.18
Beta	10.84	6.75	8.12
Sharpe Ratio	0.65	0.39	0.59

MPT Statistics	Standard Index	Best Fit Index
Alpha	3.09	-0.35
Beta	1.28	0.92
R-Squared	98.44	99.60
12-Month Yield		1.96%
Potential Cap Gains Exp		13.04%

Operations	
Family:	Vanguard
Manager:	Multiple
Tenure:	0.3 Year
Objective:	Asset Allocation

Morningstar Medalist Rating™ Silver	Analyst-Driven % 100.00	Morningstar Rating™★★★★	Standard Index	Morningstar Cat
03-01-2023	Data Coverage % 100.00	182 US Fund	Morningstar Mod Tgt Risk TR USD	US Fund Target-Date 2045
	Target-Date 2045			



Portfolio Analysis 03-31-2023

Asset Allocation %	Net %	Long %	Short %	Share Cng since 02-2023	Share Holdings : Amount	Holdings : 11,085 Total Stocks , 15,522 Total Fixed-Income, 5% Turnover Ratio	Net Assets %
Cash	3.17	6.01	2.84	⊕	180 mil	Vanguard Total Stock Mkt ldx Instl	50.86
US Stocks	50.09	50.09	0.00	⊕	1,272 mil	Vanguard Total Intl Stock Index Inv	34.23
Non-US Stocks	33.35	33.35	0.00	⊕	654 mil	Vanguard Total Bond Market ll ldx	9.52
Bonds	13.36	13.39	0.03	⊕	100 mil	Vanguard Total Intl Bd ll ldx Instl	4.00
Other/Not Cstfd	0.04	0.04	0.00	⊕			
Total	100.00	102.88	2.88				

Equity Style	Value	Brand	Growth	Portfolio Statistics	Port Avg Index	Rel Index Cat	Rel Index Cat	Sector Weightings	Stocks %	Rel Std Index
	Large	Med	Small	P/E Ratio TTM	15.9	1.01	0.98	⚙️ Cyclical	34.3	0.87
				P/C Ratio TTM	11.7	1.05	0.97	🏭 Basic Materials	4.9	0.93
				P/B Ratio TTM	2.3	1.08	0.97	🛒 Consumer Cyclical	11.0	0.94
				Geo Avg Mkt Cap \$mil	64429	1.41	0.97	🏦 Financial Services	15.0	0.97
								🏠 Real Estate	3.3	0.48

Fixed-Income Style							📶 Sensitive	1.18
Int	Med	Ext		Avg Eff Maturity	8.93		📶 Communication Services	43.5
			High	Avg Eff Duration <td>6.83<td></td><th>⚡ Energy</th><th>6.8</th></td>	6.83 <td></td> <th>⚡ Energy</th> <th>6.8</th>		⚡ Energy	6.8
			Med	Avg Wtd Coupon <td>2.64<td></td><th>🏭 Industrials</th><th>4.8</th></td>	2.64 <td></td> <th>🏭 Industrials</th> <th>4.8</th>		🏭 Industrials	4.8
			Low	Avg Wtd Price <td>—<td></td><th>💻 Technology</th><th>11.4</th></td>	— <td></td> <th>💻 Technology</th> <th>11.4</th>		💻 Technology	11.4
								20.4
							→ Defensive	22.3
								0.96

Credit Quality Breakdown 03-31-2023		
AAA	Bond %	
AA	57.75	🛡️ Consumer Defensive
A	9.51	🏥 Healthcare
		💡 Utilities

Regional Exposure	Stocks %	Rel Std Index
Americas	63.9	1.03
Greater Europe	17.8	0.95
Greater Asia	18.3	0.95

Base Currency:	USD	Purchase Constrains:	—
Ticker:	VTIVX	Incept	10-27-2003
ISIN:	US92202E6077	Type:	MFE
Minimum Initial Purchase:	\$1,000	Total Assets:	\$66,978.48 mil

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Vanguard Target Retirement 2050 Fund (USD)

Performance 04-30-2023					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	4.53	6.61	-1.11	5.63	16.41
2022	-5.65	-14.21	-6.64	9.23	-17.46
2023	6.64	—	—	—	7.94
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	2.06	10.96	6.83	8.16	7.14
Std 03-31-2023	-6.71	—	6.66	8.26	7.10
Total Return	2.06	10.96	6.83	8.16	7.14
+/- Std Index	1.55	4.63	1.86	2.48	—
+/- Cat Index	1.09	0.00	0.84	0.79	—
% Rank Cat	25	48	34	24	—
No. in Cat	208	183	169	96	—
7-day Yield	Subsidized		Unsubsidized		
30-day SEC Yield 05-10-23	—		2.10		

**Performance Disclosure**  
The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-662-7447 or visit www.vanguard.com.

Fees and Expenses

Sales Charges	
Front-End Load %	NA
Deferred Load %	NA

Fund Expenses	
Management Fees %	0.00
1201 Expense %	NA
Net Expense Ratio %	0.08
Gross Expense Ratio %	0.08
Risk and Return Profile	

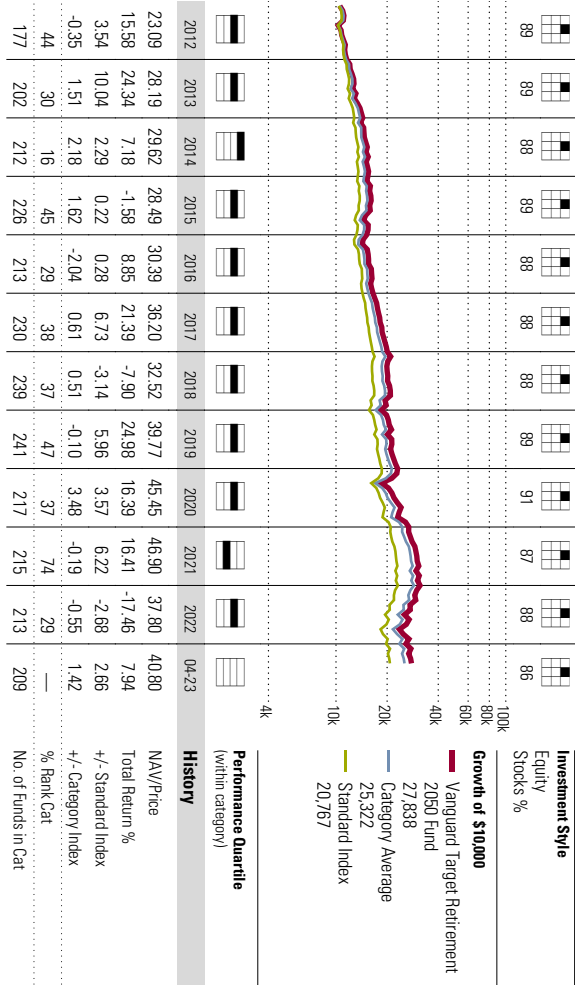
Morningstar Rating™	3★	4★	4★
Morningstar Risk	-Avg	-Avg	-Avg
Morningstar Return	Avg	Avg	+Avg

Standard Deviation	16.02	16.58	13.27
Mean	10.96	6.83	8.16
Sharpe Ratio	0.65	0.39	0.59

MPT Statistics	Standard Index	Best Fit Index
	MSCI ACWI NR	USD
Alpha	3.13	-0.38
Beta	1.30	0.93
R-Squared	98.44	99.61
12-Month Yield		1.97%
Potential Cap Gains Exp		9.24%

Operations	
Family:	Vanguard
Manager:	Multiple
Tenure:	0.3 Year
Objective:	Asset Allocation

Morningstar Medalist Rating™	Analyst-Driven %	Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
Silver	100.00	★★★★	Morningstar Mod Tgt	Morningstar Lifetime	US Fund Target-Date
03-01-2023	Data Coverage % 100.00	183 US Fund	Risk TR USD	Mod 2050 TR USD	2050
	Target-Date 2050				



Portfolio Analysis 03-31-2023

Asset Allocation %	Net %	Long %	Short %	Share Cng since 02-2023	Share Holdings : Amount	Holdings : 11,098 Total Stocks , 14,383 Total Fixed-Income, 4% Turnover Ratio	Net Assets %
Cash	3.17	5.12	1.96	⊕	153 mil	Vanguard Total Stock Mkt Idx Instl	53.34
US Stocks	52.52	52.52	0.00	⊕	1,084 mil	Vanguard Total Intl Stock Index Inv	35.87
Non-US Stocks	34.94	34.94	0.00	⊕	374 mil	Vanguard Total Bond Market Idx	6.71
Bonds	9.33	9.35	0.02	⊕	56 mil	Vanguard Total Intl Bnd Idx Instl	2.73
Other/Not Cstfd	0.04	0.04	0.00	⊕			
Total	100.00	101.98	1.98				

Equity Style	Portfolio Statistics	Port Avg Index	Rel Cat	Rel Idx	Sector Weightings	Stocks %	Rel Std Index
Value Blend Growth	P/E Ratio TTM	15.9	1.01	0.98	⚙️ Cyclical	34.3	0.87
Large	P/C Ratio TTM	11.7	1.05	0.97	🏠 Basic Materials	4.9	0.93
Med	P/B Ratio TTM	2.3	1.08	0.97	🛒 Consumer Cyclical	11.0	0.94
Small	Geo Avg Mkt Cap \$mil	64449	1.41	1.01	🏢 Financial Services	15.0	0.97
					🏠 Real Estate	3.3	0.48

Fixed-Income Style			⚡ Sensitive	43.5	1.18
Int	Med	Ext	🏠 Communication Services	6.8	1.24
			⚡ Energy	4.8	0.96
			🏭 Industrials	11.4	0.97
			🔬 Technology	20.4	1.39
			🛡 Defensive	22.3	0.94
	High				
	Med				
	Low				

Credit Quality Breakdown 03-31-2023				
AAA	Bond %	58.05	🛡️ Consumer Defensive	7.1
AA	9.36	🏠 Healthcare	12.3	0.95
A		💡 Utilities	2.9	0.98
				0.81

Regional Exposure	Americas	63.9	Stocks %	1.03
	Greater Europe	17.8	Rel Std Index	0.95
	Greater Asia	18.3		0.95

Base Currency:	USD	Purchase Constrains:	—
Ticker:	VFIK	Incept	06-07-2006
ISIN:	US922022BB628	Type:	MFE
Minimum Initial Purchase:	\$1,000	Total Assets:	\$54,522.12 mil

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Vanguard Target Retirement 2060 Fund (USD)

Performance 04-30-2023					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	4.54	6.61	-1.11	5.66	16.44
2022	-5.68	-14.19	-6.64	9.23	-17.46
2023	6.64	—	—	—	7.96
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load adj Mthly Std 03-31-2023	2.07	10.98	6.82	8.14	9.07
	-6.67	—	6.65	8.24	9.02
Total Return	2.07	10.98	6.82	8.14	9.07
+/- Std Index	1.56	4.65	1.85	2.46	—
+/- Cat Index	1.17	-0.01	1.00	0.93	—
% Rank Cat	28	58	37	1	
No. in Cat	207	177	156	7	
7-day Yield	Subsidized		Unsubsidized		
30-day SEC Yield 05-10-23	—		2.10		

**Performance Disclosure**  
The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-662-7447 or visit www.vanguard.com.

Fees and Expenses

Sales Charges	
Front-End Load %	NA
Deferred Load %	NA

Fund Expenses	
Management Fees %	0.00
1201 Expense %	NA
Net Expense Ratio %	0.08
Gross Expense Ratio %	0.08
Risk and Return Profile	

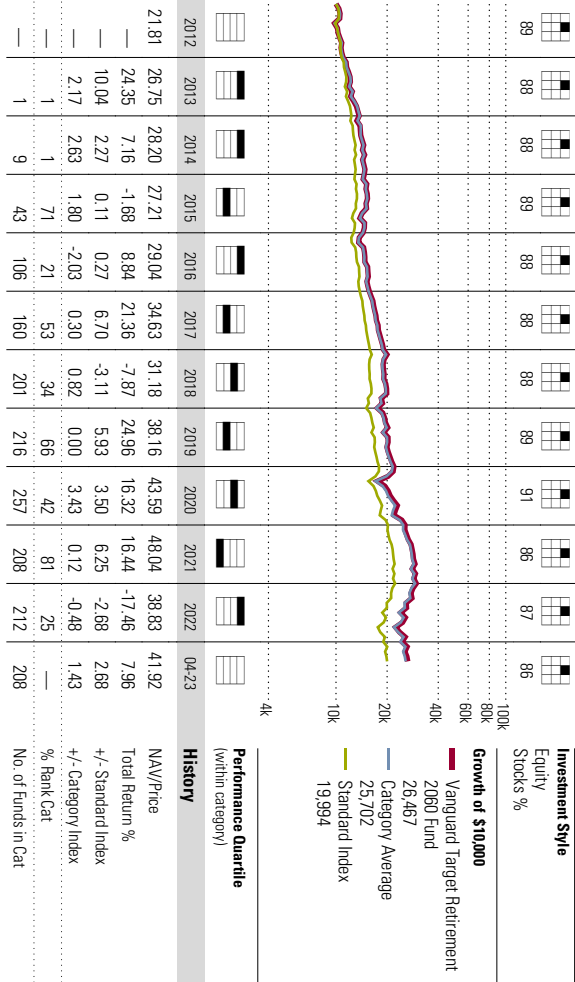
Morningstar Rating™	3★	4★	—
Morningstar Risk	-Avg	-Avg	—
Morningstar Return	Avg	Avg	—

Standard Deviation	16.00	16.56	13.26
Mean	10.98	6.82	8.14
Sharpe Ratio	0.65	0.39	0.58

MPT Statistics	Standard Index	Best Fit Index
	MSCI ACWI NR	USD
Alpha	3.14	-0.35
Beta	1.30	0.93
R-Squared	98.45	99.61
12-Month Yield		1.94%
Potential Cap Gains Exp		-2.09%

Operations	
Family:	Vanguard
Manager:	Multiple
Tenure:	0.3 Year
Objective:	Asset Allocation

Morningstar Medalist Rating™	Analyst-Driven %	Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
Silver	100.00	★★★★	Morningstar Mod Tgt	Morningstar Lifetime	US Fund Target-Date
03-01-2023	Data Coverage % 100.00	177 US Fund	Risk TR USD	Mod 2060 TR USD	2060
	Target-Date 2060				



Portfolio Analysis 03-31-2023			
Asset Allocation %			
Cash	3.15	5.10	1.95
US Stocks	52.60	52.60	0.00
Non-US Stocks	34.99	34.99	0.00
Bonds	9.22	9.24	0.02
Other/Not Csf'd	0.04	0.04	0.00
Total	100.00	101.98	1.98

Equity Style		Portfolio Statistics		Share Cng		Share Holdings :		Stocks %	
Value	Brand Growth	P/E Ratio TTM	Avg Index	Rel Cat	Rel Cat	since 02-2023	Amount	11,098 Total Stocks	14,344 Total Fixed-Income,
Large	Small	P/B Ratio TTM	11.7	1.05	0.97		3% Turnover Ratio		
		Geo Avg Mkt Cap	64445	1.41	1.02				

Fixed-Income Style		Avg Eff Maturity		8.93	
Int	Med Ext	Avg Eff Duration	6.83		
		Avg Wtd Coupon	2.64		
		Avg Wtd Price	—		

Credit Quality Breakdown 03-31-2023		Bond %	
AAA	57.91		
AA	9.43		
A	16.78		
BBB	15.16		
BB	0.00		
B	0.00		
Below B	0.41		
NR	0.31		

Regional Exposure		Stocks %		Rel Std Index	
Americas	63.9			1.03	
Greater Europe	17.8			0.95	
Greater Asia	18.3			0.95	

Base Currency: USD		Purchase Constrains:	
Ticker: VTI	VTISX	Incept	—
ISIN: US92202EB396		Type: MFE	01-19-2012
Minimum Initial Purchase: \$1,000		Total Assets:	\$18,062.76 mil

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Vanguard Target Retirement Income Fund (USD)

Performance 04-30-2023					
Quarterly Returns	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total %
2021	0.08	3.23	-0.13	2.01	5.25
2022	-4.77	-7.37	-4.64	3.74	-12.74
2023	4.23	—	—	—	4.96
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	0.42	2.61	3.43	3.74	4.75
Std 03-31-2023	-4.50	—	3.26	3.79	4.73
Total Return	0.42	2.61	3.43	3.74	4.75
+/- Std Index	-0.09	-3.72	-1.53	-1.94	—
+/- Cat Index	0.56	-1.41	-0.45	-0.12	—
% Rank Cat	27	51	34	39	—
No. in Cat	156	139	122	81	—

7-day Yield	Subsidized	Unsubsidized
30-day SEC Yield 05-10-23	2.72	2.72

**Performance Disclosure**  
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Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-662-7447 or visit [www.vanguard.com](http://www.vanguard.com).

Fees and Expenses	
Sales Charges	NA
Front-End Load %	NA
Deferred Load %	NA
Fund Expenses	
Management Fees %	0.00
12b1 Expense %	NA
Net Expense Ratio %	0.08
Gross Expense Ratio %	0.08
Risk and Return Profile	

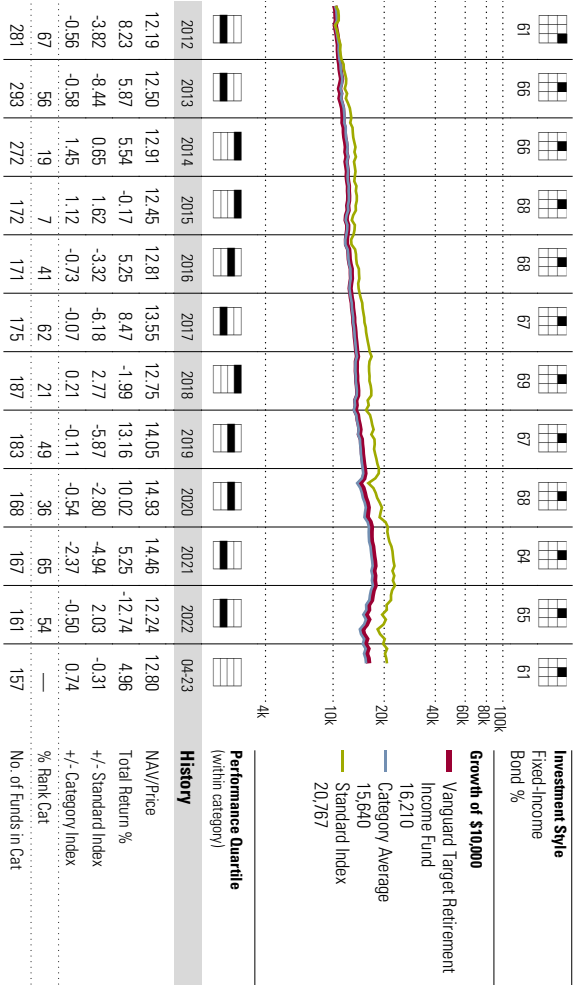
Morningstar Rating™	3 Yr	5 Yr	10 Yr
	139 funds	122 funds	81 funds
	3★	4★	4★
Morningstar Risk	Avg	Avg	Avg
Morningstar Return	Avg	Avg	Avg

Standard Deviation	3 Yr	5 Yr	10 Yr
	8.08	7.44	5.81
Mean	2.61	3.43	3.74
Sharpe Ratio	0.20	0.28	0.49

MPT Statistics	Standard Index	Best Fit Index
	Morningstar US Con	Tgt Alloc NR USD
Alpha	-1.99	1.84
Beta	0.65	1.09
R-Squared	94.71	98.73
12-Month Yield		2.71%
Potential Cap Gains Exp		3.19%

Operations	
Family:	Vanguard
Manager:	Multiple
Tenure:	0.3 Year
Objective:	Asset Allocation

Morningstar Medalist Rating™	Analyst-Driven %	Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
Silver	100.00	★★★★	Morningstar Mod Tgt	Morningstar Lifetime	US Fund Target-Date Retirement
03-01-2023	Data Coverage % 100.00	139 US Fund	Risk TR USD	Mod Incm TR USD	
	Target-Date Retirement				



Portfolio Analysis 03-31-2023									
Asset Allocation %		Net %	Long %	Short %	Share Chg since 02-2023	Share Amount	Holdings: 10,047 Total Stocks, 17,871 Total Fixed-Income, 19% Turnover Ratio	NAV/Price	Net Assets %
Cash	3.42	14.75	11.33						
US Stocks	17.09	17.09	0.00						
Non-US Stocks	11.69	11.69	0.00						
Bonds	67.77	67.90	0.13						
Other/Not Cstfd	0.02	0.02	0.00						
Total	100.00	111.46	11.46						

Equity Style		Portfolio Statistics		Sector Weightings		Stocks %	
Value	Blend Growth	P/E Ratio TTM	Port Avg Index	Basic Materials	Consumer Cyclical	34.3	0.87
		P/C Ratio TTM	15.9 1.01	Financial Services	Healthcare	5.0	0.94
		Geo Avg Mkt Cap	11.7 1.04	Real Estate	Utilities	11.0	0.94
			2.3 1.08			15.1	0.97
			1.40 1.01			3.3	0.48
Fixed-Income Style		Avg Eff Maturity		Sensitive		1.17	
Intl	Med Ext	Avg Eff Duration	7.44	Communication Services		6.8	1.24
		Avg Wtd Coupon	5.82	Energy		4.8	0.96
		Avg Wtd Price	2.14	Industrials		11.4	0.97
			93.44	Technology		20.4	1.39
Credit Quality Breakdown 03-31-2023		Bond %		Defensive		22.3	
AAA		67.13		Consumer Defensive		7.1	0.95
AA		7.50		Healthcare		12.2	0.98
A		13.08		Utilities		2.9	0.81
BBB		11.71					
BB		0.00					
B		0.00					
Below B		0.33					
NR		0.26					

Regional Exposure		Stocks %	Rel Std Index
Americas		63.3	1.02
Greater Europe		18.1	0.97
Greater Asia		18.6	0.97

Base Currency:	USD	Purchase Constraints:	—
Ticker:	VTINX	Incept:	10-27-2003
ISIN:	US9202021029	Type:	MF
Minimum Initial Purchase:	\$1,000	Total Assets:	\$37,167.05 mil

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Standardized Returns assume reinvestment of dividends and capital gains. They depict performance without adjusting for the effects of taxation, but are adjusted to reflect sales charges and ongoing fund expenses.

If adjusted for taxation, the performance quoted would be significantly reduced. For variable annuities, additional expenses will be taken into account, including M&E risk charges, fund-level expenses such as management fees and operating fees, contract-level administration fees, and charges such as surrender, contract, and sales charges. The maximum redemption fee is the maximum amount a fund may charge if redeemed in a specific time period after the fund's purchase.

After-tax returns are calculated using the highest individual federal marginal income tax rates, and do not reflect the impact of state and local taxes. Actual after-tax returns depend on the investor's tax situation and may differ from those shown. The after-tax returns shown are not relevant to investors who hold their fund shares through tax-deferred arrangements such as 401(k) plans or an IRA. After-tax returns exclude the effects of either the alternative minimum tax or phase-out of certain tax credits. Any taxes due are as of the time the distributions are made, and the taxable amount and tax character of each distribution are as specified by the fund on the dividend declaration date. Due to foreign tax credits or realized capital losses, after-tax returns may be greater than before-tax returns. After-tax returns for exchange-traded funds are based on net asset value.

Money Market Fund Disclosures

If money market fund(s) are included in the Standardized Returns table below, each money market fund's name will be followed by a superscripted letter that links it to the applicable disclosure below:

Institutional Money Market Funds (designated by an "S"):

You could lose money by investing in the fund. Because the share price of the fund will fluctuate, when you sell your shares they may be worth more or less than what you originally paid for them. The fund may impose a fee upon sale of your shares or may temporarily suspend your ability to sell shares if the fund's liquidity falls below required minimums because of market conditions or other factors. An investment in the fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The fund's sponsor has no legal obligation to provide financial support to the fund, and you should not expect that the sponsor will provide financial support to the fund at any time.

Government Money Market Funds that have chosen to rely on the ability to impose liquidity fees and suspend redemptions (designated by an "L") and

Retail Money Market Funds (designated by an "L"):

You could lose money by investing in the fund. Although the fund seeks to preserve the value of your investment at \$1.00 per share, it cannot guarantee it will do so. The fund may impose a fee upon sale of your shares or may temporarily suspend your ability to sell shares if the fund's liquidity falls below required minimums because of market conditions or other factors. An investment in the fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The fund's sponsor has no legal obligation to provide financial support to the fund, and you should not expect that the sponsor will provide financial support to the fund at any time.

Government Money Market Funds that have chosen not to rely on the ability to impose liquidity fees and suspend redemptions (designated by an "N"):

You could lose money by investing in the fund. Although the fund seeks to preserve the value of your investment at \$1.00 per share, it cannot guarantee it will do so. An investment in the fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The fund's sponsor has no legal obligation to provide financial support to the fund, and you should not expect that the sponsor will provide financial support to the fund at any time.

Annualized returns 03-31-2023											
Standardized Returns (%)	7-day Yield Substidred as of date	7-day Yield Unsubstidred as of date	1Yr	5Yr	10Yr	Since Inception	Inception Date	Max Front Load %	Max Back Load %	Net Exp Ratio %	Gross Exp Ratio % Redemption %
DFA US Large Cap Value I	—	—	-5.00	6.46	9.51	9.69	02-19-1993	NA	NA	0.21 <sup>1</sup>	0.31
DFA US Targeted Value I	—	—	-3.59	7.72	9.16	10.71	02-23-2000	NA	NA	0.29	0.29
Fidelity® 500 Index	—	—	-7.74	11.18	12.23	12.00	05-04-2011	NA	NA	0.02	0.02
Fidelity® Mid Cap Index	—	—	-8.74	8.06	10.05	11.72	09-08-2011	NA	NA	0.03	0.03
Fidelity® Small Cap Index	—	—	-11.41	4.81	8.20	10.22	09-08-2011	NA	NA	0.03	0.03
Fidelity® Total International Index	—	—	-4.71	2.37	—	5.46	06-07-2016	NA	NA	0.06	0.06
Fidelity® US Bond Index	—	—	-4.78	0.89	1.32	1.93	05-04-2011	NA	NA	0.03	0.03

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Annualized returns 03-31-2023												
Standardized Returns (%)		7-day Yield Subsidized as of date	7-day Yield Unsubsidized as of date	1Yr	5Yr	10Yr	Since Inception	Inception Date	Max Front Load %	Max Back Load %	Net Exp Ratio %	Gross Exp Ratio % Redemption %
Hotchkis & Wiley High Yield Z		—	—	-2.91	2.13	—	2.12	03-29-2018	NA	NA	0.60 <sup>2</sup>	0.55
JPMorgan Mid Cap Growth R6		—	—	-10.80	10.73	12.67	13.52	11-01-2011	NA	NA	0.70 <sup>3</sup>	0.75
MFS Mid Cap Value R6		—	—	-5.70	8.30	9.66	10.06	02-01-2013	NA	NA	0.62 <sup>4</sup>	0.63
Sterling Capital Total Return Bond R6		—	—	-4.68	1.36	—	1.25	02-01-2018	NA	NA	0.35 <sup>5</sup>	0.48
T. Rowe Price Lrg Cp Gr I		—	—	-14.69	10.19	14.45	10.43	10-31-2001	NA	NA	0.55	0.55
Vanguard International Growth Adm		—	—	-6.81	6.54	8.79	7.63	08-13-2001	NA	NA	0.34	0.34
Vanguard International Value Inv		—	—	1.16	3.19	4.96	8.25	05-16-1983	NA	NA	0.38	0.38
Vanguard Small Cap Growth Index Admiral		—	—	-12.03	6.32	8.85	11.03	09-27-2011	NA	NA	0.07	0.07
Vanguard Target Retirement 2025 Fund		—	—	-5.91	4.77	6.35	6.33	10-27-2003	NA	NA	0.08	0.08
Vanguard Target Retirement 2030 Fund		—	—	-6.22	5.21	6.89	6.28	06-07-2006	NA	NA	0.08	0.08
Vanguard Target Retirement 2035 Fund		—	—	-6.36	5.68	7.43	7.06	10-27-2003	NA	NA	0.08	0.08
Vanguard Target Retirement 2040 Fund		—	—	-6.53	6.12	7.91	6.87	06-07-2006	NA	NA	0.08	0.08
Vanguard Target Retirement 2045 Fund		—	—	-6.70	6.59	8.22	7.65	10-27-2003	NA	NA	0.08	0.08
Vanguard Target Retirement 2050 Fund		—	—	-6.71	6.66	8.26	7.10	06-07-2006	NA	NA	0.08	0.08
Vanguard Target Retirement 2055 Fund		—	—	-6.67	6.66	8.24	9.34	08-18-2010	NA	NA	0.08	0.08
Vanguard Target Retirement 2060 Fund		—	—	-6.67	6.65	8.24	9.02	01-19-2012	NA	NA	0.08	0.08
Vanguard Target Retirement 2065 Fund		—	—	-6.64	6.64	—	7.34	07-12-2017	NA	NA	0.08	0.08
Vanguard Target Retirement 2070 Fund		—	—	—	—	—	7.73	06-28-2022	NA	NA	0.08	0.08
Vanguard Target Retirement Income Fund		—	—	-4.50	3.26	3.79	4.73	10-27-2003	NA	NA	0.08	0.08
Bloomberg US Agg Bond TR USD		—	—	-4.78	0.91	1.36	—	01-03-1980	—	—	—	—
Bloomberg US Universal TR USD		—	—	-4.61	1.05	1.62	—	12-31-1998	—	—	—	—
ICE BofA US High Yield TR USD		—	—	-3.56	3.06	4.03	—	08-29-1986	—	—	—	—
Morningstar Gbl Allocation TR USD		—	—	-7.25	3.98	—	—	06-18-2013	—	—	—	—
Morningstar Gbl xUS Val TME NR USD		—	—	-4.18	—	—	—	11-24-2021	—	—	—	—
Morningstar Lifetime Mod 2025 TR USD		—	—	-8.37	4.31	5.65	—	02-18-2009	—	—	—	—
Morningstar Lifetime Mod 2030 TR USD		—	—	-8.49	4.70	6.30	—	02-18-2009	—	—	—	—
Morningstar Lifetime Mod 2035 TR USD		—	—	-8.22	5.18	6.90	—	02-18-2009	—	—	—	—
Morningstar Lifetime Mod 2040 TR USD		—	—	-7.81	5.62	7.31	—	02-18-2009	—	—	—	—
Morningstar Lifetime Mod 2045 TR USD		—	—	-7.50	5.86	7.48	—	02-18-2009	—	—	—	—
Morningstar Lifetime Mod 2050 TR USD		—	—	-7.33	5.92	7.47	—	02-18-2009	—	—	—	—
Morningstar Lifetime Mod 2055 TR USD		—	—	-7.33	5.86	7.40	—	02-18-2009	—	—	—	—
Morningstar Lifetime Mod 2060 TR USD		—	—	-7.36	5.77	—	—	06-23-2014	—	—	—	—
Morningstar Lifetime Mod Incm TR USD		—	—	-5.19	3.75	3.87	—	02-18-2009	—	—	—	—
Morningstar Mod Tgt Risk TR USD		—	—	-6.22	4.80	5.74	—	02-18-2009	—	—	—	—
Morningstar US Con Tgt Alloc NR USD		—	—	-4.77	—	—	—	06-30-2020	—	—	—	—
Morningstar US Core Bd TR USD		—	—	-4.73	—	—	—	05-01-2019	—	—	—	—
Morningstar US LM Brd Growth TR USD		—	—	-14.03	—	—	—	12-21-2020	—	—	—	—
Morningstar US SmI Brd Gt Ext TR USD		—	—	-11.02	—	—	—	12-21-2020	—	—	—	—
Morningstar US SmI Brd Val Ext TR USD		—	—	-9.10	—	—	—	12-21-2020	—	—	—	—
MSCI ACWI Ex USA Growth NR USD		—	—	-6.35	3.36	5.08	—	01-01-2001	—	—	—	—
MSCI ACWI Ex USA NR USD		—	—	-5.07	2.47	4.17	—	01-01-2001	—	—	—	—
MSCI ACWI Ex USA Value NR USD		—	—	-4.00	1.26	3.06	—	01-01-2001	—	—	—	—
MSCI ACWI NR USD		—	—	-7.44	6.93	8.06	—	01-01-2001	—	—	—	—
MSCI EAFE NR USD		—	—	-1.38	3.52	5.00	—	03-31-1986	—	—	—	—
Russell 1000 Growth TR USD		—	—	-10.90	13.66	14.59	—	01-01-1987	—	—	—	—
Russell 1000 TR USD		—	—	-8.39	10.87	12.01	—	12-31-1978	—	—	—	—
Russell 1000 Value TR USD		—	—	-5.91	7.50	9.13	—	01-01-1987	—	—	—	—
Russell 2000 Growth TR USD		—	—	-10.60	4.26	8.49	—	12-31-1978	—	—	—	—
Russell 2000 TR USD		—	—	-11.61	4.71	8.04	—	12-31-1978	—	—	—	—
Russell 2000 Value TR USD		—	—	-12.96	4.55	7.22	—	12-31-1978	—	—	—	—
Russell Mid Cap Growth TR USD		—	—	-8.52	9.07	11.17	—	02-01-1995	—	—	—	—
Russell Mid Cap TR USD		—	—	-8.78	8.05	10.05	—	12-31-1978	—	—	—	—
Russell Mid Cap Value TR USD		—	—	-9.22	6.54	8.80	—	12-31-1985	—	—	—	—

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Annualized returns 03-31-2023												
Standardized Returns (%)	7-day Yield Subsidized as of date	7-day Yield Unsubsidized as of date	1Yr	5Yr	10Yr	Since Inception	Inception Date	Max Front Load %	Max Back Load %	Net Exp Ratio %	Gross Exp Ratio %	Max Redemption %
S&P 500 TR USD			-7.73	11.19	12.24	—	01-30-1970					
USTREAS T-Bill Auction Ave 3 Mon			3.28	1.51	0.94	—	02-28-1941					
1. Contractual waiver that may expire at any time												
2. Contractual waiver, Expires 08-31-2023												
3. Contractual waiver, Expires 10-31-2023												
4. Non-contractual waiver, Expires 01-31-2024												
5. Contractual waiver, Expires 01-31-2024												
Return after Tax (%)	On Distribution						On Distribution and Sales of Shares					
	1Yr	5Yr	10Yr	Since Inception	Inception Date	1Yr	5Yr	10Yr	Since Inception			
DFA US Large Cap Value I	-6.38	5.18	8.31	8.44	02-19-1993	-2.59	4.76	7.49	7.97			
DFA US Targeted Value I	-5.03	6.33	7.71	9.16	02-23-2000	-1.55	5.76	7.06	8.66			
Fidelity® 500 Index	-8.36	10.55	11.50	11.26	05-04-2011	-4.61	8.68	9.87	9.77			
Fidelity® Mid Cap Index	-9.43	7.26	9.18	10.91	09-08-2011	-5.12	6.17	7.96	9.56			
Fidelity® Small Cap Index	-11.86	4.00	7.24	9.31	09-08-2011	-6.76	3.60	6.34	8.20			
Fidelity® Total International Index	-5.67	1.66	—	4.77	06-07-2016	-2.83	1.64	—	4.08			
Fidelity® US Bond Index	-5.37	0.19	0.41	0.98	05-04-2011	-2.46	0.62	0.72	1.18			
Hutchins & Wiley High Yield Z	-5.13	-0.16	—	-0.16	03-29-2018	-1.76	0.65	—	0.65			
JPMorgan Mid Cap Growth R6	-10.96	8.93	10.92	11.76	11-01-2011	-6.29	8.35	10.10	10.95			
MFS Mid Cap Value R6	-7.14	6.92	8.24	8.66	02-01-2013	-2.84	6.10	7.35	7.72			
Sterling Capital Total Return Bond R6	-5.84	0.02	—	-0.08	02-01-2018	-2.78	0.52	—	0.44			
T. Rowe Price Lrg Cp Gr I	-15.43	9.14	13.26	9.79	10-31-2001	-8.27	7.83	11.77	8.91			
Vanguard International Growth Adm	-8.21	5.06	7.74	6.65	08-13-2001	-3.17	5.10	7.02	6.22			
Vanguard International Value Inv	0.47	2.19	4.08	6.33	05-16-1983	1.04	2.24	3.67	6.18			
Vanguard Small Cap Growth Index Admiral	-12.20	6.15	8.58	10.75	09-27-2011	-7.05	4.91	7.14	9.15			
Vanguard Target Retirement 2025 Fund	-6.74	3.23	5.08	5.39	10-27-2003	-3.26	3.53	4.79	5.00			
Vanguard Target Retirement 2030 Fund	-6.91	3.78	5.73	5.41	06-07-2006	-3.46	3.91	5.28	4.96			
Vanguard Target Retirement 2035 Fund	-7.07	4.19	6.21	6.20	10-27-2003	-3.51	4.31	5.74	5.72			
Vanguard Target Retirement 2040 Fund	-7.21	4.64	6.76	6.02	06-07-2006	-3.61	4.69	6.19	5.52			
Vanguard Target Retirement 2045 Fund	-7.39	5.33	7.17	6.89	10-27-2003	-3.68	5.06	6.45	6.28			
Vanguard Target Retirement 2050 Fund	-7.31	5.52	7.31	6.36	06-07-2006	-3.73	5.11	6.49	5.72			
Vanguard Target Retirement 2055 Fund	-7.23	5.66	7.41	8.59	08-18-2010	-3.73	5.10	6.50	7.60			
Vanguard Target Retirement 2060 Fund	-7.21	5.84	7.52	8.34	01-19-2012	-3.74	5.07	6.49	7.23			
Vanguard Target Retirement 2065 Fund	-7.16	6.09	—	6.81	07-12-2017	-3.74	5.08	—	5.67			
Vanguard Target Retirement 2070 Fund	—	—	—	7.46	06-28-2022	—	—	—	4.68			
Vanguard Target Retirement Income Fund	-5.57	1.88	2.61	3.60	10-27-2003	-2.53	2.18	2.60	3.41			

# Mutual Fund Detail Report

## Disclosure Statement

The Mutual Fund Detail Report is supplemental sales literature, and therefore must be preceded or accompanied by the mutual fund's current prospectus or an equivalent statement. Please read this information carefully. In all cases, this disclosure statement should accompany the Mutual Fund Detail Report. Morningstar is not itself a FINRA-member firm.

All data presented is based on the most recent information available to Morningstar as of the release date and may or may not be an accurate reflection of current data for securities included in the fund's portfolio. There is no assurance that the data will remain the same.

Unless otherwise specified, the definition of "funds" used throughout this Disclosure Statement includes closed-end funds, exchange-traded funds, grantor trusts, index mutual funds, open-ended mutual funds, and unit investment trusts. It does not include exchange-traded notes or exchange-traded commodities.

Prior to 2016, Morningstar's methodology evaluated open-end mutual funds and exchange-traded funds as separate groups. Each group contained a subset of the current investments included in our current comparative analysis. In this report, historical data presented on a calendar-year basis and trailing periods ending at the most-recent month-end reflect the updated methodology.

Risk measures (such as alpha, beta, r-squared, standard deviation, mean, or Sharpe ratio) are calculated for securities or portfolios that have at least a three-year history.

Most Morningstar rankings do not include any adjustment for one-time sales charges, or loads. Morningstar does publish load-adjusted returns, and ranks such returns within a Morningstar Category in certain reports. The total returns for ETFs and fund share classes without one-time loads are equal to Morningstar's calculation of load-adjusted returns. Share classes that are subject to one-time loads relating to advice or sales commissions have their returns adjusted as part of the load-adjusted return calculation to reflect those loads.

### Comparison of Fund Types

Funds, including closed-end funds, exchange-traded funds (ETFs), money market funds, open-end funds, and unit investment trusts (UITs), have many similarities, but also many important differences. In general, publicly-offered funds are investment companies registered with the Securities and Exchange Commission under the Investment Company Act of 1940, as amended. Funds pool money from their investors and manage it according to an investment strategy or objective, which can vary greatly from fund to fund. Funds have the ability to offer diversification and professional management, but also involve risk, including the loss of principal.

A closed-end fund is an investment company, which typically makes one public offering of a fixed number of shares. Thereafter, shares are traded on a secondary market. As a result, the secondary market price may be higher or lower than the closed-end fund's net asset value (NAV). If these shares trade at a price above their NAV, they are said to be trading at a premium. Conversely, if they are trading at a price below their NAV, they are said to be trading at a discount. A closed-end mutual fund's expense ratio is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. Closed-end funds may also have 12b-1 fees. Income distributions and capital gains of the closed-end fund are subject

to income tax, if held in a taxable account.

An ETF is an investment company that typically has an investment objective of striving to achieve a similar return as a particular market index. The ETF will invest in either all or a representative sample of the securities included in the index it is seeking to imitate. Like closed-end funds, an ETF can be traded on a secondary market and thus have a market price that may be higher or lower than its net asset value. If these shares trade at a price above their NAV, they are said to be trading at a premium. Conversely, if they are trading at a price below their NAV, they are said to be trading at a discount. ETFs are not actively managed, so their value may be affected by a general decline in the U.S. market segments relating to their underlying indexes. Similarly, an imperfect match between an ETF's holdings and those of its underlying index may cause its performance to vary from that of its underlying index. The expense ratio of an ETF is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. ETFs do not have 12b-1 fees or sales loads. Capital gains from funds held in a taxable account are subject to income tax. In many, but not all cases, ETFs are generally considered to be more tax-efficient when compared to similarly invested mutual funds.

Holding company depository receipts (HOLDRs) are similar to ETFs, but they focus on narrow industry groups. HOLDRs initially own 20 stocks, which are unmanaged, and can become more concentrated due to mergers, or the disparate performance of their holdings. HOLDRs can only be bought in 100-share increments. Investors may exchange shares of a HOLDR for its underlying stocks at any time.

A money-market fund is an investment company that invests in commercial paper, banker's acceptances, repurchase agreements, government securities, certificates of deposit and other highly liquid securities, and pays money market rates of interest. Money markets are not FDIC-insured, may lose money, and are not guaranteed by a bank or other financial institution.

An open-end fund is an investment company that issues shares on a continuous basis. Shares can be purchased from the open-end mutual fund itself, or through an intermediary, but cannot be traded on a secondary market, such as the New York Stock Exchange. Investors pay the open-end mutual fund's current net asset value plus any initial sales loads. Net asset value is calculated daily, at the close of business. Open-end mutual fund shares can be redeemed, or sold back to the fund or intermediary, at their current net asset value minus any deferred sales loads or redemption fees. The expense ratio for an open-end mutual fund is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. Open-end funds may also have 12b-1 fees. Income distributions and capital gains of the open-end fund are subject to income tax, if held in a taxable account.

A unit investment trust (UIT) is an investment company organized under a trust agreement between a sponsor and trustee. UITs typically purchase a fixed portfolio of securities and then sell units in the trust to investors. The major difference between a UIT and a mutual fund is that a mutual fund is actively managed, while a UIT is not. On a periodic basis, UITs usually distribute to the unit holder their pro rata share of the trust's net investment income and net realized capital gains, if any. If the trust is one that invests only in tax-free securities, then the income from the trust is also tax-free. UITs generally make one public offering of a fixed number of units. However, in some cases, the sponsor will maintain a secondary market that allows existing unit holders to sell their units and for new investors to buy units. A one-time initial sales charge is deducted from an investment made into the trust. UIT investors may also pay creation and development fees, organization costs, and/or trustee and operation expenses. UIT units may be redeemed by the sponsor at their net

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asset value minus a deferred sales charge, and sold to other investors. UITs have set termination dates, at which point the underlying securities are sold and the sales proceeds are paid to the investor. Typically, a UIT investment is rolled over into successive trusts as part of a long-term strategy. A rollover fee may be charged for the exercise of rollover purchases. There are tax consequences associated with rolling over an investment from one trust to the next.

## Performance

The performance data given represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's shares, when sold, may be worth more or less than the original investment. Fund portfolio statistics change over time. Funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution.

Morningstar calculates after-tax returns using the highest applicable federal marginal income tax rate plus the investment income tax and Medicare surcharge. As of 2018, this rate is 37% plus 3.8% investment income plus 0.9% Medicare surcharge, or 41.7%. This rate changes periodically in accordance with changes in federal law.

## Pre-Inception Returns

The analysis in this report may be based, in part, on adjusted historical returns for periods prior to the inception of the share class of the fund shown in this report ("Report Share Class"). If pre-inception returns are shown, a performance stream consisting of the Report Share Class and older share classes) is created. Morningstar adjusts pre-inception returns downward to reflect higher expenses in the Report Share Class, we do not hypothetically adjust returns upwards for lower expenses. For more information regarding calculation of pre-inception returns please see the Morningstar Extended Performance Methodology.

**When pre-inception data is presented in the report, the header at the top of the report will indicate this. In addition, the pre-inception data included in the report will appear in italics.**

While the inclusion of pre-inception data provides valuable insight into the probable long-term behavior of newer share classes of a fund, investors should be aware that an adjusted historical return can only provide an approximation of that behavior. For example, the fee structures of a retail share class will vary from that of an institutional share class, as retail shares tend to have higher operating expenses and sales charges. These adjusted historical returns are not actual returns. The underlying investments in the share classes used to calculate the pre-performance string will likely vary from the underlying investments held in the fund after inception. Calculation methodologies utilized by Morningstar may differ from those applied by other entities, including the fund itself.

## Quantitatively-Driven Content

This report may contain a Morningstar Medalist Rating™ derived quantitatively ("Quantitatively-Driven Content"), meaning it was generated in whole or in part by a series of statistical models intended to replicate Morningstar's analyst output.

Mr. Lee Davidson, Head of Manager and Quantitative Research is responsible for overseeing the methodology that supports the Quantitatively-Driven Content. As an employee of Morningstar Research Service LLC, Mr. Davidson is guided by the Morningstar Research Service Code of Ethics and Investment Research Integrity Policy in carrying out his responsibilities. Morningstar's Manager Research Group consists of manager research employees of various Morningstar Inc. subsidiaries who prepare analysis on investment products and quantitative research employees of Morningstar, Inc. or its subsidiaries who aim to help investors by providing innovative research, models, and software. In the United

States, manager research employees are employed by Morningstar Research Services LLC, which is registered with the U.S. Securities and Exchange Commission.

## 12b1 Expense %

A 12b-1 fee is a fee used to pay for a mutual fund's distribution costs. It is often used as a commission to brokers for selling the fund. The amount of the fee is taken from a fund's returns.

## Alpha

Alpha is a measure of the difference between a security or portfolio's actual returns and its expected performance, given its level of risk (as measured by beta.) Alpha is often seen as a measure of the value added or subtracted by a portfolio manager.

## Analyst-Driven %

The Analyst-Driven % data point displays the weighted percentage of a vehicle's pillar ratings assigned directly or indirectly by analysts. For example, if the People and Parent ratings are assigned directly or indirectly by analysts but the Process rating is assigned algorithmically, the Analyst-Driven % for an actively managed vehicle would disclose that 55% of the pillar weight was assigned by analysts and the Analyst-Driven % for a passively managed vehicle would disclose that 20% of the pillar weight was assigned by analysts.

## Asset Allocation

Asset Allocation reflects asset class weightings of the portfolio. The "Other" category includes security types that are not neatly classified in the other asset classes, such as convertible bonds and preferred stocks, or cannot be classified by Morningstar as a result of missing data. Morningstar may display asset allocation data in several ways, including tables or pie charts. In addition, Morningstar may compare the asset class breakdown of the fund against its three-year average, category average, and/or index proxy.

Asset allocations shown in tables may include a breakdown among the long, short, and net (long positions net of short) positions. These statistics summarize what the fund's managers are buying and how they are positioning the fund's portfolio. When short positions are captured in these portfolio statistics, investors get a more robust description of the fund's exposure and risk. Long positions involve buying the security outright and selling it later, with the hope the security's price rises over time. Short positions are taken with the hope of benefiting from anticipated price declines. The investor borrows the security from another investor, sells it and receives cash, and then is obligated to buy it back at some point in the future. If the price falls after the short sale, the investor will have sold high and can buy low to close the short position and lock in a profit. However, if the price of the security increases after the short sale, the investor will experience a loss buying it at a higher price than the sale price.

Most fund portfolios hold fairly conventional securities, such as long positions in equities and bonds. Morningstar may generate a colored pie chart for these portfolios. Other portfolios use other investment strategies or securities, such as short positions or derivatives, in an attempt to reduce transaction costs, enhance returns, or reduce risk. Some of these securities and strategies behave like conventional securities, while other have unique return and risk characteristics. Portfolios that incorporate investment strategies resulting in short positions or portfolio with relatively exotic derivative positions often report data to Morningstar that does not meet the parameters of the calculation underlying a pie chart's generation. Because of the nature of how these securities are reported to Morningstar, we may not always get complete portfolio information to report asset allocation. Morningstar, at its discretion, may determine if unidentified characteristics of fund holdings are material.

Asset allocation and other breakdowns may be rescaled accordingly so that percentages total to 100 percent. (Morningstar used discretion to determine if unidentified characteristics of fund holdings are material, pie charts and other breakdowns may rescale identified characteristics to 100% for more intuitive presentation.)

Note that all other portfolio statistics presented in this report are based on the long (or long/rescaled) holdings of the fund only.

**Average Effective Duration**

Duration is a time measure of a bond's interest-rate sensitivity. Average effective duration is a weighted average of the duration of the fixed-income securities within a portfolio.

**Average Effective Maturity**

Average Effective Maturity is a weighted average of the maturities of all bonds in a portfolio.

**Average Weighted Coupon**

A coupon is the fixed annual percentage paid out on a bond. The average weighted coupon is the asset-weighted coupon of each bond in the portfolio.

**Average Weighted Price**

Average Weighted Price is the asset-weighted price of bonds held in a portfolio, expressed as a percentage of par (face) value. This number reveals if the portfolio favors bonds selling at prices above or below par value (premium or discount securities respectively.)

**Best Fit Index**

Alpha, beta, and R-squared statistics are presented for a broad market index and a "best fit" index. The Best Fit Index identified in this report was determined by Morningstar by calculating R-squared for the fund against approximately 100 indexes tracked by Morningstar. The index representing the highest R-squared is identified as the best fit index. The best fit index may not be the fund's benchmark, nor does it necessarily contain the types of securities that may be held by the fund or portfolio.

**Beta**

Beta is a measure of a security or portfolio's sensitivity to market movements (proxied using an index.) A beta of greater than 1 indicates more volatility than the market, and a beta of less than 1 indicates less volatility than the market.

**Credit Quality Breakdown**

Credit Quality breakdowns are shown for corporate-bond holdings in the fund's portfolio and depict the quality of bonds in the underlying portfolio. It shows the percentage of fixed-income securities that fall within each credit-quality rating as assigned by a Nationally Recognized Statistical Rating Organization (NRSRO). Bonds not rated by an NRSRO are included in the Other/Not-Classified category.

**Data Coverage %**

The Data Coverage % data point is a summary metric describing the level of data completeness used to generate the overall rating. If the pillar is assigned directly or indirectly by analysts, the pillar has complete data availability, as no model was used to estimate the pillar score. If the pillar is assigned directly by algorithm, Morningstar counts the number of data points feeding both the positive and negative models and counts whether the vehicle has strategy-specific data available. A simple percentage is calculated per pillar. The overall data coverage % is then scaled by pillar weights.

**Deferred Load %**

The back-end sales charge or deferred load is imposed when an investor

redeems shares of a fund. The percentage of the load charged generally declines the longer the fund's shares are held by the investor. This charge, coupled with 12b-1 fees, commonly serves as an alternative to a traditional front-end load.

**Expense Ratio %**

The expense ratio is the annual fee that all funds charge their shareholders. It expresses the percentage of assets deducted each fiscal year for fund expenses, including 12b-1 fees, management fees, administrative fees, operating costs, and all other asset-based costs incurred by the fund. Portfolio transaction fees, or brokerage costs, as well as front-end or deferred sales charges are not included in the expense ratio. The expense ratio, which is deducted from the fund's average net assets, is accrued on a daily basis. The gross expense ratio, in contrast to the net expense ratio, does not reflect any fee waivers in effect during the time period.

**Front-end Load %**

The initial sales charge or front-end load is a deduction made from each investment in the fund and is generally based on the amount of the investment.

**Geometric Average Market Capitalization**

Geometric Average Market Capitalization is a measure of the size of the companies in which a portfolio invests.

**Growth of 10,000**

For funds, this graph compares the growth of an investment of 10,000 (in the base currency of the fund) with that of an index and/or with that of the average for all funds in its Morningstar Category. The total returns are not adjusted to reflect sales charges or the effects of taxation but are adjusted to reflect actual ongoing fund expenses, and they assume reinvestment of dividends and capital gains. If adjusted, effects of sales charges and taxation would reduce the performance quoted. If pre-inception data is included in the analysis, it will be graphed.

The index in the Growth of 10,000 graph is an unmanaged portfolio of specified securities and cannot be invested in directly. The index does not reflect any initial or ongoing expenses. A fund's portfolio may differ significantly from the securities in the index. The index is chosen by Morningstar.

**Management Fees %**

The management fee includes the management and administrative fees listed in the Management Fees section of a fund's prospectus. Typically, these fees represent the costs shareholders paid for management and administrative services over the fund's prior fiscal year.

**Maximum Redemption Fee %**

The Maximum Redemption Fee is the maximum amount a fund may charge if redeemed in a specific time period after the fund's purchase (for example, 30, 180, or 365 days).

**Mean**

Mean is the annualized geometric return for the period shown.

**Morningstar Medalist Rating™**

The Morningstar Medalist Rating is the summary expression of Morningstar's forward-looking analysis of investment strategies as offered via specific vehicles using a rating scale of Gold, Silver, Bronze, Neutral, and Negative. The Medalist Ratings indicate which investments Morningstar believes are likely to outperform a relevant index or peer group average on a risk-adjusted basis over time. Investment products are evaluated on three key pillars (People, Parent, and Process) which, when coupled with a fee assessment, forms the basis for Morningstar's conviction in those products' investment merits and determines

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the Medalist Rating they're assigned. Pillar ratings take the form of Low, Below Average, Average, Above Average, and High. Pillars may be evaluated via an analyst's qualitative assessment (either directly to a vehicle the analyst covers or indirectly when the pillar ratings of a covered vehicle are mapped to a related uncovered vehicle) or using algorithmic techniques. Vehicles are sorted by their expected performance into rating groups defined by their Morningstar Category and their active or passive status. When analysts directly cover a vehicle, they assign the three pillar ratings based on their qualitative assessment, subject to the oversight of the Analyst Rating Committee, and monitor and reevaluate them at least every 14 months. When the vehicles are covered either indirectly by analysts or by algorithm, the ratings are assigned monthly. For more detailed information about the Medalist Ratings, including their methodology, please go to <http://global.morningstar.com/managedisclosures>.

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### Morningstar Category

Morningstar Category is assigned by placing funds into peer groups based on their underlying holdings. The underlying securities in each portfolio are the primary factor in our analysis as the investment objective and investment strategy stated in a fund's prospectus may not be sufficiently detailed for our proprietary classification methodology. Funds are placed in a category based on their portfolio statistics and compositions over the past three years. Analysis of performance and other indicative facts are also considered. If the fund is new and has no portfolio history, Morningstar estimates where it will fall before giving it a permanent category assignment. Categories may be changed based on recent changes to the portfolio.

### Morningstar Rank

Morningstar Rank is the total return percentile rank within each Morningstar Category. The highest (or most favorable) percentile rank is zero and the lowest (or least favorable) percentile rank is 100. Historical percentile ranks are based on a snapshot of a fund at the time of calculation.

### Morningstar Rating™

The Morningstar Rating™ for funds, or "star rating", is calculated for funds and separate accounts with at least a three-year history. Exchange-traded funds and open-ended mutual funds are considered a single population for comparative purposes. It is calculated based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a managed product's monthly excess performance, placing more emphasis on downward variations and rewarding consistent performance. The Morningstar Rating does not include any adjustment for sales

loads. The top 10% of products in each product category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The Overall Morningstar Rating for a managed product is derived from a weighted average of the performance figures associated with its three-, five-, and 10-year (if applicable) Morningstar Rating metrics. For more information about the Morningstar Rating for funds, including its methodology, please go to [global.morningstar.com/managedisclosures](http://global.morningstar.com/managedisclosures)

The Morningstar Return rates a fund's performance relative to other managed products in its Morningstar Category. It is an assessment of a product's excess return over a risk-free rate (the return of the 90-day Treasury Bill) in comparison with the products in its Morningstar category. In each Morningstar category, the top 10% of products earn a High Morningstar Return (High), the next 22.5% Above Average (+Avg), the middle 35% Average (Avg), the next 22.5% Below Average (-Avg), and the bottom 10% Low (Low). Morningstar Return is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

### Morningstar Risk

Morningstar Risk evaluates a fund's downside volatility relative to that of other products in its Morningstar Category. It is an assessment of the variations in monthly returns, with an emphasis on downside variations, in comparison with the products in its Morningstar category. In each Morningstar category, the 10% of products with the lowest measured risk are described as Low Risk (Low), the next 22.5% Below Average (-Avg), the middle 35% Average (Avg), the next 22.5% Above Average (+Avg), and the top 10% High (High). Morningstar Risk is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

### Style Analysis

The Morningstar Style Box reveals a fund's investment style as of the date noted on this report.

For equity funds, the vertical axis shows the market capitalization of the long stocks owned, and the horizontal axis shows the investment style (value, blend, or growth). A darkened cell in the style box matrix indicates the weighted average style of the portfolio.

For portfolios holding fixed-income investments, a Fixed Income Style Box is calculated. The vertical axis shows the credit quality based on credit ratings and the horizontal axis shows interest-rate sensitivity as measured by effective duration. There are three credit categories- "High", "Medium", and "Low", and there are three interest rate sensitivity categories- "Limited", "Moderate", and "Extensive" resulting in nine possible combinations. As in the equity Style Box the combination of credit and interest rate sensitivity for a portfolio is represented by a darkened cell in the matrix.

Morningstar uses credit rating information from credit rating agencies (CRA's) that have been designated Nationally Recognized Statistical Rating Organizations (NRSRO's) by the Securities and Exchange Commission (SEC) in the United States. For a list of all NRSROs, please visit <https://www.sec.gov/ocf/ocf-learn-nrsro.html>. Additionally, Morningstar will use credit ratings from CRA's which have been recognized by foreign regulatory institutions that are deemed the equivalent of the NRSRO designation.

To determine the rating applicable to a holding and the subsequent holding weighted value of a portfolio two methods may be employed. First is a common



methodology approach where if a case exists such that two rating organizations/ agencies have rated a holding, the lower rating of the two should be applied; if three or more CRA's have rated a holding, the median rating should be applied, and in cases where there are more than two ratings and a median rating cannot be determined, the lower of the two middle ratings should be applied. Alternatively, if there is more than one rating available an average can be calculated from all and applied. Please Note: Morningstar, Inc. is not an NRSRO nor does it issue a credit rating on the fund. Credit ratings for any security held in a portfolio may change over time.

Morningstar uses the credit rating information to calculate a weighted-average credit quality value for the portfolio. This value is based only upon those holdings which are considered to be classified as "fixed income", such as government, corporate, or securitized issues. Other types of holdings such as equities and many, though not all, types of derivatives are excluded. The weighted-average credit quality value is represented by a rating symbol which corresponds to the long-term rating symbol schemas employed by most CRA's. Note that this value is not explicitly published but instead serves as an input in Style Box calculation. This symbol is then used to map to a Style Box credit quality category of "low," "medium," or "high." Funds with a "low" credit quality category are those whose weighted-average credit quality is determined to be equivalent to the commonly used High Yield classification, meaning a rating below "BBB-", portfolios assigned to the "high" credit category have either a "AAA" or "AA+" average credit quality value, while "medium" are those with an average rating of "AA" inclusive to "BBB-". It is expected and intended that the majority of portfolios will be assigned a credit category of "medium".

For assignment to an interest-rate sensitivity category Morningstar uses the average effective duration of the portfolio. From this value there are three distinct methodologies employed to determine assignment to category.

Portfolios which are assigned to Morningstar municipal-bond category employ static breakpoints between categories. These breakpoints are "limited" equal to 4.5 years or less.; (ii) "Moderate" equal to 4.5 years to less than 7 years, and "Extensive" equal to more than 7 years. For portfolios assigned to Morningstar categories other than U.S.-Taxable, including all domiciled outside the United States, static duration breakpoints are also used. The values differ from the municipal category values. : (i) "Limited" equals less than or equal to 3.5 years, "Moderate" equals greater than 3.5 years but less than or equal to 6 years, "Extensive" is assigned to portfolios with effective durations of more than 6 years. Note: Interest-rate sensitivity for non-U.S. domiciled portfolios (excluding those in Morningstar convertible categories) may be assigned using average modified duration when average effective duration is not available.

For portfolios Morningstar classifies as U.S-Taxable Fixed-Income, interest-rate sensitivity category assignment is based on the effective duration of the Morningstar Core Bond Index (MCBI). The classification assignment is dynamically determined relative to the benchmark index value. A "limited" category will be assigned to portfolios whose average effective duration is between 25% to 75% of MCBI average effective duration, where the average effective duration is between 75% to 125% of the MCBI the portfolio will be classified as "Moderate", and those portfolios with an average effective duration value 125% or greater of the average effective duration of the MCBI will be classified as "Extensive".

## P/B Ratio TTM

The Price/Book Ratio (or P/B Ratio) for a fund is the weighted average of the P/B Ratio of the stocks in its portfolio. Book value is the total assets of a company, less total liabilities. The P/B ratio of a company is calculated by dividing the market price of its outstanding stock by the company's book value, and then adjusting for the number of shares outstanding. Stocks with negative book values are excluded from this calculation. It shows approximately how much an investor is paying for a company's assets based on historical valuations.

## P/C Ratio TTM

The Price/Cash Flow Ratio (or P/C Ratio) for a fund is the weighted average of the P/C Ratio of the stocks in its portfolio. The P/C Ratio of a stock represents the amount an investor is willing to pay for a dollar generated from a company's operations. It shows the ability of a company to generate cash and acts as a gauge of liquidity and solvency.

## P/E Ratio TTM

The Price/Earnings Ratio (or P/E Ratio) for a fund is the weighted average of the P/E Ratios of the stocks in its portfolio. The P/E Ratio of a stock is the stock's current price divided by the company's trailing 12-month earnings per share. A high P/E Ratio usually indicates the market will pay more to obtain the company's earnings because it believes in the company's abilities to increase their earnings. A low P/E Ratio indicates the market has less confidence that the company's earnings will increase, however value investors may believe such stocks have an overlooked or undervalued potential for appreciation.

## Percentile Rank in Category

Percentile Rank is a standardized way of ranking items within a peer group, in this case, funds within the same Morningstar Category. The observation with the largest numerical value is ranked zero the observation with the smallest numerical value is ranked 100. The remaining observations are placed equal distance from one another on the rating scale. Note that lower percentile ranks are generally more favorable for returns (high returns), while higher percentile ranks are generally more favorable for risk measures (low risk).

## Performance Quartile

Performance Quartile reflects a fund's Morningstar Rank.

## Potential Capital Gains Exposure

Potential Capital Gains Exposure is an estimate of the percent of a fund's assets that represent gains. It measures how much the fund's assets have appreciated, and it can be an indicator of possible future capital gains distributions. A positive potential capital gains exposure value means that the fund's holdings have generally increased in value while a negative value means that the fund has reported losses on its book.

## Quarterly Returns

Quarterly Return is calculated applying the same methodology as Total Return except it represents return through each quarter-end.

## R-Squared

R-squared is the percentage of a security or portfolio's return movements that are explained by movements in its benchmark index, showing the degree of correlation between the security or portfolio and the benchmark. This figure is helpful in assessing how likely it is that beta and alpha are statistically significant. A value of 1 indicates perfect correlation between the security or portfolio and its benchmark. The lower the R-squared value, the lower the correlation.

## Regional Exposure

The regional exposure is a display of the portfolio's assets invested in the regions shown on the report.

## Sector Weightings

Super Sectors represent Morningstar's broadest classification of equity sectors by assigning the 11 equity sectors into three classifications. The Cyclical Super Sector includes industries significantly impacted by economic shifts, and the stocks included in these sectors generally have betas greater than 1. The Defensive Super Sector generally includes industries that are relatively immune to economic cycles, and the stocks in these industries generally have betas less than 1. The Sensitive Super Sector includes industries that ebb and flow with

the overall economy, but not severely so. Stocks in the Sensitive Super Sector generally have betas that are close to 1.

### Share Change

Shares Change represents the number of shares of a stock bought or sold by a fund since the previously reported portfolio of the fund.

### Sharpe Ratio

Sharpe Ratio uses standard deviation and excess return (a measure of a security or portfolio's return in excess of the U.S. Treasury three-month Treasury Bill) to determine the reward per unit of risk.

### Standard Deviation

Standard deviation is a statistical measure of the volatility of the security or portfolio's returns. The larger the standard deviation, the greater the volatility of return.

### Standardized Returns

Standardized Return applies the methodology described in the Standardized Returns page of this report. Standardized Return is calculated through the most recent calendar-quarter end for one-year, five-year, 10-year, and/or since-inception periods, and it demonstrates the impact of sales charges (if applicable) and ongoing fund expenses. Standardized Return reflects the return an investor may have experience if the security was purchased at the beginning of the period and sold at the end, incurring transaction charges.

### Total Return

Total Return, or "Non Load-Adjusted Return", reflects performance without adjusting for sales charges (if applicable) or the effects of taxation, but it is adjusted to reflect all actual ongoing security expenses and assumes reinvestment of dividends and capital gains. It is the return an investor would have experienced if the fund was held throughout the period. If adjusted for sales charges and the effects of taxation, the performance quoted would be significantly reduced.

Total Return +/- indicates how a fund has performed relative to its peers (as measure by its Standard Index and/or Morningstar Category Index) over the time periods shown.

### Trailing Returns

Standardized Return applies the methodology described in the Standardized Returns page of this report. Standardized Return is calculated through the most recent calendar-quarter end for one-year, five-year, 10-year, and/or since-inception periods, and it demonstrates the impact of sales charges (if applicable) and ongoing fund expenses. Standardized Return reflects the return an investor may have experienced if the fund was purchased at the beginning of the period and sold at the end, incurring transaction charges.

Load-Adjusted Monthly Return is calculated applying the same methodology as Standardized Return, except that it represents return through month-end. As with Standardized Return, it reflects the impact of sales charges and ongoing fund expenses, but not taxation. If adjusted for the effects of taxation, the performance quoted would be significantly different.

Trailing Return +/- indicates how a fund has performed relative to its peers (as measure by its Standard Index and/or Morningstar Category Index) over the time periods shown.

## Investment Risk Disclosures

Morningstar makes no representation concerning the appropriateness of any investment or investment strategy. Other types of investments or investment strategies may be more appropriate depending upon an investor's specific situation, including the investor's investment objectives, financial status, tax situation, and risk tolerance. These disclosures cannot and do not list every conceivable factor that may affect the results of any investment or investment strategy. Additional risks will arise, and an investor must be willing and able to accept those risks. You should speak with your financial professional to understand the risks and limitations on investing in any particular investment or investment strategy, including those that are shown in this report, before making investment decisions.

The performance data given represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's shares/units, when sold or redeemed, may be worth more or less than the original investment. Portfolio statistics change over time. Securities are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution. Portfolio statistics change over time.

The risks associated with investing are numerous and include, but are not limited to, those listed below:

International/Emerging Market Equities: Investing in international securities involves special additional risks. These risks include, but are not limited to, currency risk, political risk, and risk associated with varying accounting standards. Investing in emerging markets may accentuate these risks.

Sector Strategies: Portfolios that invest exclusively in one sector or industry involve additional risks. The lack of industry diversification subjects the investor to increased industry-specific risks.

Non-Diversified Strategies: Portfolios that invest a significant percentage of assets in a single issuer involve additional risks, including share price fluctuations, because of the increased concentration of investments.

Small Cap Equities: Portfolios that invest in stocks of small companies involve additional risks. Smaller companies typically have a higher risk of failure, and are not as well established as larger blue-chip companies. Historically, smaller-company stocks have experienced a greater degree of market volatility than the overall market average.

Mid Cap Equities: Portfolios that invest in companies with market capitalization below \$10 billion involve additional risks. The securities of these companies may be more volatile and less liquid than the securities of larger companies.

High-Yield Bonds: Portfolios that invest in lower-rated debt securities (commonly referred to as junk bonds) involve additional risks because of the lower credit quality of the securities in the portfolio. The investor should be aware of the possible higher level of volatility, and increased risk of default.

Tax-Free Municipal Bonds: The investor should note that the income from tax-free municipal bond funds may be subject to state and local taxation and the Alternative Minimum Tax.

Bonds: Bonds are subject to interest rate risk. As the prevailing level of bond interest rates rise, the value of bonds already held in a portfolio declines.

Portfolios that hold bonds are subject to declines and increases in value due to general changes in interest rates.

Hedge Funds: The investor should note that hedge fund investing involves specialized risks that are dependent upon the type of strategies undertaken by the manager. This can include distressed or event-driven strategies, long/short

strategies, using arbitrage (exploiting price inefficiencies), international investing, and use of leverage, options and/or derivatives). Although the goal of hedge fund managers may be to reduce volatility and produce positive absolute return under a variety of market conditions, hedge funds may involve a high degree of risk and are suitable only for investors of substantial financial means who could bear the entire loss of their investment.

**Bank Loan/Senior Debt:** Bank loans and senior loans are impacted by the risks associated with fixed income in general, including interest rate risk and default risk. They are often non-investment grade; therefore, the risk of default is high. These securities are also relatively illiquid. Managed products that invest in bank loans/senior debt are often highly leveraged, producing a high risk of return volatility.

**Exchange Traded Notes (ETNs):** ETNs are unsecured debt obligations. Any repayment of notes is subject to the issuer's ability to repay its obligations. ETNs do not typically pay interest.

**Leveraged ETFs:** Levered investments are designed to meet multiples of the return performance of the index they track and seek to meet their fund objectives on a daily basis (or other time period stated within the Fund objective). The leverage/gearing ratio is the amount of excess return that a levered investment is designed to achieve in comparison to its index performance (i.e. 200%, 300%, -200%, or -300% or 2X, 3X, -2X, -3X). Leveraged investments are designed to meet multiples of the return performance of the index they track and seek to meet their fund objectives on a daily basis (or other time period stated within the prospectus objective). The leverage/gearing ratio is the amount of excess return that a leveraged investment is designed to achieve in comparison to its index performance (i.e. 200%, 300%, -200%, or -300% or 2X, 3X, -2X, -3X). Compounding has the ability to affect the performance of the fund to be either greater or less than the index performance multiplied by the multiple stated within the funds objective over a stated time period.

**Short Positions:** When a short position moves in an unfavorable way, the losses are theoretically unlimited. The broker may demand more collateral and a manager might have to close out a short position at an inopportune time to limit further losses.

**Long-Short:** Due to the strategies used by long-short funds, which may include but are not limited to leverage, short selling, short-term trading, and investing in derivatives, these funds may have greater risk, volatility, and expenses than those focusing on traditional investment strategies.

**Liquidity Risk:** Closed-end fund, ETF, and HOLIDR trading may be halted due to market conditions, impacting an investor's ability to sell a fund.

**Market Price Risk:** The market price of ETFs, HOLIDRs, and closed-end funds traded on the secondary market is subject to the forces of supply and demand and thus independent of the NAV. This can result in the market price trading at a premium or discount to the NAV, which will affect an investor's value.

**Market Risk:** The market prices of ETFs and HOLIDRs can fluctuate as a result of several factors, such as security-specific factors or general investor sentiment. Therefore, investors should be aware of the prospect of market fluctuations and the impact it may have on the market price.

**Target-Date Funds:** Target-date funds typically invest in other mutual funds and are designed for investors who are planning to retire during the target date year. The fund's target date is the approximate date when investors expect to begin withdrawing their money. A target-date fund's investment objective/strategy typically becomes more conservative over time, primarily by reducing its

allocation to equity mutual funds and increasing its allocations in fixed-income mutual funds. An investor's principal value in a target-date fund is not guaranteed at any time, including at the fund's target date.

**High double- and triple-digit returns:** High double- and triple-digit returns were the result of extremely favorable market conditions, which may not continue to be the case. High returns for short time periods must not be a major factor when making investment decisions.

# Benchmark Disclosure

## Bloomberg US Agg Bond TR USD

This index is composed of the BarCap Government/Credit Index, the Mortgage-Backed Securities Index, and the Asset-Backed Securities Index. The returns we publish for the index are total returns, which includes the daily reinvestment of dividends. Bloomberg Indexes and its associated data, Copyright © 2023 Bloomberg Index Services Limited. Bloomberg® is a trademark and service mark of Bloomberg Finance L.P., and its affiliates (collectively "Bloomberg"). Bloomberg or Bloomberg's licensors own all proprietary rights in the Bloomberg Indices. Bloomberg does not approve or endorse this material or guarantee the accuracy or completeness of any information herein, nor does Bloomberg make any warranty, express or implied, as to the results to be obtained therefrom and, to the maximum extent allowed by law, Bloomberg shall not have any liability or responsibility for injury or damages arising in connection therewith. The constituents displayed for this index are from the following proxy: iShares Core US Aggregate Bond ETF.

## Bloomberg US Universal TR USD

BarCap U.S. Universal Bond Index: The U.S. Universal Index mirrors the increasingly popular "Core Plus" choice set used by many U.S.-dollar investors. It is the union of the U.S. Aggregate Index, the U.S. High Yield Corporate Index, the 144A Index, the Eurodollar Index, the Emerging Markets Index, the non-ERISA portion of the CMBS Index, and the CMBS High Yield Index. Municipal debt, private placements, and non-dollar-denominated issues are excluded from the Universal Index. The constituents displayed for this index are from the following proxy: iShares Core Total USD Bond Market ETF.

## ICE BofA US High Yield TR USD

The US High Yield Master II Index tracks the performance of below investment grade US dollar-denominated corporate bonds publicly issued in the US domestic market. "Yankee" bonds are included in the index provided the issuer is domiciled in a country having an investment grade foreign currency long-term debt rating. 144a issues are not included in the index until they are exchanged for registered securities. Qualifying bonds must have at least one year remaining term to maturity, a fixed coupon schedule and a minimum amount outstanding of USD 100 million.

## Morningstar Gbl Allocation TR USD

The index measures the performance of a multi-asset class portfolio of global equities, global bonds and cash. This portfolio is held in a static allocation that is appropriate for investors who seek average exposure to global equity market risk and returns. This Index does not incorporate Environmental, Social, or Governance (ESG) criteria.

## Morningstar Gbl xUS Val TME NR USD

The index measures the performance of large and mid-cap stocks representing global markets excluding US stocks with lower valuations. This Index does not incorporate Environmental, Social, or Governance (ESG) criteria.

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**Morningstar Lifetime Mod 2025 TR USD**

The Morningstar Lifetime Moderate 2025 Index represents a portfolio of global equities, bonds and traditional inflation hedges such as commodities and TIPS. This portfolio is held in proportions appropriate for a U.S. investor who is about 15 years away from retirement. The Moderate risk profile is for investors who are comfortable with average exposure to equity market volatility.

**Morningstar Lifetime Mod 2030 TR USD**

The Morningstar Lifetime Moderate 2030 Index represents a portfolio of global equities, bonds and traditional inflation hedges such as commodities and TIPS. This portfolio is held in proportions appropriate for a U.S. investor who is about 20 years away from retirement. The Moderate risk profile is for investors who are comfortable with average exposure to equity market volatility.

**Morningstar Lifetime Mod 2035 TR USD**

The Morningstar Lifetime Moderate 2035 Index represents a portfolio of global equities, bonds and traditional inflation hedges such as commodities and TIPS. This portfolio is held in proportions appropriate for a U.S. investor who is about 25 years away from retirement. The Moderate risk profile is for investors who are comfortable with average exposure to equity market volatility.

**Morningstar Lifetime Mod 2040 TR USD**

The Morningstar Lifetime Moderate 2040 Index represents a portfolio of global equities, bonds and traditional inflation hedges such as commodities and TIPS. This portfolio is held in proportions appropriate for a U.S. investor who is about 30 years away from retirement. The Moderate risk profile is for investors who are comfortable with average exposure to equity market volatility.

**Morningstar Lifetime Mod 2045 TR USD**

The Morningstar Lifetime Moderate 2045 Index represents a portfolio of global equities, bonds and traditional inflation hedges such as commodities and TIPS. This portfolio is held in proportions appropriate for a U.S. investor who is about 35 years away from retirement. The Moderate risk profile is for investors who are comfortable with average exposure to equity market volatility.

**Morningstar Lifetime Mod 2050 TR USD**

The Morningstar Lifetime Moderate 2050 Index represents a portfolio of global equities, bonds and traditional inflation hedges such as commodities and TIPS. This portfolio is held in proportions appropriate for a U.S. investor who is about 40 years away from retirement. The Moderate risk profile is for investors who are comfortable with average exposure to equity market volatility.

**Morningstar Lifetime Mod 2055 TR USD**

The Morningstar Lifetime Moderate 2055 Index represents a portfolio of global equities, bonds and traditional inflation hedges such as commodities and TIPS. This portfolio is held in proportions appropriate for a U.S. investor who is about 45 years away from retirement. The Moderate risk profile is for investors who are comfortable with average exposure to equity market volatility.

**Morningstar Lifetime Mod 2060 TR USD**

The index measures the performance of a portfolio of global equities, bonds and traditional inflation hedges such as commodities and TIPS. This portfolio is held in proportions appropriate for a US investor who has a target maturity date of 2060. The Moderate risk profile is for investors who are comfortable with average exposure to equity market volatility. This Index does not incorporate Environmental, Social, or Governance (ESG) criteria.

**Morningstar Lifetime Mod Incm TR USD**

The Morningstar Lifetime Moderate Income Index represents a portfolio of global equities, bonds and traditional inflation hedges such as commodities and TIPS. This portfolio is held in proportions appropriate for a U.S. investor who is

at least ten years into retirement. The Moderate risk profile is for investors who are comfortable with average exposure to equity market volatility.

**Morningstar Mod Tgt Risk TR USD**

The Morningstar Moderate Target Risk Index represents a portfolio of global equities, bonds and traditional inflation hedges such as commodities and TIPS. This portfolio is held in a static allocation appropriate for U.S. investors who seek average exposure to equity market risk and returns.

**Morningstar US Con Tgt Alloc NR USD**

The Morningstar Target Allocation Index family consists of indexes that offer a diversified mix of stocks and bonds created for local investors to benchmark their allocation funds. Morningstar's Category classification system defines the level of equity and bond exposure for each index. The Morningstar US Conservative Target Allocation Index seeks 22.5% exposure to global equity markets.

**Morningstar US Core Bd TR USD**

The index measures the performance of fixed-rate, investment-grade USD-denominated securities with maturities greater than one year. It is market-capitalization weighted. This Index does not incorporate Environmental, Social, or Governance (ESG) criteria.

**Morningstar US LM Brd Growth TR USD**

The index provides a comprehensive depiction of the performance and fundamental characteristics of the Large-Mid Cap Growth segment of U.S. equity markets. It targets stocks representing the faster growing half of the U.S. large- and mid-cap market. This Index does not incorporate Environmental, Social, or Governance (ESG) criteria.

**Morningstar US SmI Brd Gt Ext TR USD**

The index provides a comprehensive depiction of the performance and fundamental characteristics of the Small Growth segment of U.S. equity markets. It targets stocks representing the faster growing half of the U.S. small-cap market. This Index does not incorporate Environmental, Social, or Governance (ESG) criteria.

**Morningstar US SmI Brd Val Ext TR USD**

The index provides a comprehensive depiction of the performance and fundamental characteristics of the Small Value segment of U.S. equity markets. It targets stocks representing the cheaper half of the U.S. small-cap market. This Index does not incorporate Environmental, Social, or Governance (ESG) criteria.

**MSCI ACWI Ex USA Growth NR USD**

The index measures the performance of the growth large and mid cap segments of the particular regions, excluding USA equity securities, including developed and emerging market. It is free float-adjusted market-capitalization weighted. The constituents displayed for this index are from the following proxy: iShares MSCI ACWI ETF.

**MSCI ACWI Ex USA NR USD**

The MSCI AC World ex USA is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global developed and emerging markets. The index consists of 48 developed and emerging market country indices. The returns we publish for the index are total returns, which include reinvestment of dividends. The constituents displayed for this index are from the following proxy: iShares MSCI ACWI ex US ETF.

**MSCI ACWI Ex USA Value NR USD**

The index measures the performance of the value large and mid cap segments of the particular regions, excluding USA equity securities, including developed

and emerging market. It is free float-adjusted market-capitalization weighted. The constituents displayed for this index are from the following proxy: iShares MSCI ACWI ETF.

#### **MSCI ACWI NR USD**

The index measures the performance of the large and mid cap segments of all country markets. It is free float-adjusted market-capitalization weighted. The constituents displayed for this index are from the following proxy: iShares MSCI ACWI ETF.

#### **MSCI EAFE NR USD**

This Europe, Australasia, and Far East index is a market-capitalization-weighted index of 21 non-U.S., industrialized country indexes.

This disclosure applies to all MSCI indices: Certain information included herein is derived by Morningstar in part from MSCI's Index Constituents (the "Index Data"). However, MSCI has not reviewed any information contained herein and does not endorse or express any opinion such information or analysis. MSCI does not make any express or implied warranties, representations or guarantees concerning the Index Data or any information or data derived therefrom, and in no event will MSCI have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) relating to any use of this information. The constituents displayed for this index are from the following proxy: Schwab International Index Fund®.

#### **Russell 1000 Growth TR USD**

Tracks the companies within the Russell 1000 with higher price-to-book ratios and higher forecasted growth values. The constituents displayed for this index are from the following proxy: iShares Russell 1000 Growth ETF.

#### **Russell 1000 TR USD**

Consists of the 1000 largest companies within the Russell 3000 index, which represents approximately 98% of the investable US equity market. Also known as the Market-Oriented Index, because it represents the group of stocks from which most active money managers choose. The constituents displayed for this index are from the following proxy: iShares Russell 1000 ETF.

#### **Russell 1000 Value TR USD**

Tracks the companies within the Russell 1000 with lower price-to-book ratios and lower forecasted growth values. The constituents displayed for this index are from the following proxy: iShares Russell 1000 Value ETF.

#### **Russell 2000 Growth TR USD**

Tracks the companies within the Russell 2000 Index that have higher price-to-book ratios and higher forecasted growth values. The constituents displayed for this index are from the following proxy: iShares Russell 2000 Growth ETF.

#### **Russell 2000 TR USD**

Consists of the 2000 smallest companies in the Russell 3000 Index. The constituents displayed for this index are from the following proxy: iShares Russell 2000 ETF.

#### **Russell 2000 Value TR USD**

Tracks the companies within the Russell 2000 Index that have lower price-to-book ratios and lower forecasted growth values. The constituents displayed for this index are from the following proxy: iShares Russell 2000 Value ETF.

#### **Russell Mid Cap Growth TR USD**

Tracks the companies within the Russell Midcap Index with higher price-to-book ratios and higher forecasted growth values. The constituents displayed for this index are from the following proxy: iShares Russell Mid-Cap Growth ETF.

#### **Russell Mid Cap TR USD**

Measures the performance of the 800 smallest companies in the Russell 1000 Index, which represent approximately 23% of the total market capitalization of the Russell 1000 index. The constituents displayed for this index are from the following proxy: iShares Russell Mid-Cap ETF.

#### **Russell Mid Cap Value TR USD**

Tracks the companies within the Russell Midcap Index having lower price-to-book ratios and lower forecasted growth values. The constituents displayed for this index are from the following proxy: iShares Russell Mid-Cap Value ETF.

#### **S&P 500 TR USD**

A market capitalization-weighted index composed of the 500 most widely held stocks whose assets and/or revenues are based in the US; it's often used as a proxy for the U.S. stock market. TR (Total Return) indexes include daily reinvestment of dividends. The constituents displayed for this index are from the following proxy: SPDR® S&P 500 ETF Trust.

#### **USTREAS T-Bill Auction Ave 3 Mon**

Three-month T-bills are government-backed, short-term investments considered to be risk-free and as good as cash because the maturity is only three months. Morningstar collects yields on the T-bill on a weekly basis from the Wall Street Journal.

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PLEASE READ THE PROSPECTUS AND CONSIDER THE FUND'S INVESTMENT OBJECTIVES, RISKS, CHARGES AND EXPENSES CAREFULLY BEFORE INVESTING. THE PROSPECTUS CONTAINS THIS AND OTHER IMPORTANT INFORMATION ABOUT THE FUND.

**Performance.** Performance results illustrated herein do not reflect a deduction of any investment advisory fees charged by Hyas Group or any investment manager but do include the fund's internal expenses. Performance results are annualized for time periods greater than one year and include all cash and cash equivalents, realized and unrealized capital gains and losses, and dividends, interest, and income. The investment results depicted herein represent historical performance. As a result of recent market activity, current performance may vary from the figures shown. Past performance is not a guarantee of future results.

The underlying fund's internal expenses (also known as the expense ratio) generally covers investment management fees, marketing, and distribution fees (also known as 12b-1 fees) and other operating expenses of the fund. The expense ratios being displayed for mutual funds reflect each fund's prospectus "net" expenses as provided by Morningstar. Such "net" expenses are subject to change and may increase at any time.

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Performance data quoted is historical. Past performance does not guarantee future results. Current performance may be higher or lower than the performance quoted. You can obtain performance data current to the most recent month-end for each fund by visiting the fund company website. The investment return and principal value of an investment will fluctuate such that an investor's shares, when redeemed, may be worth more or less than their original cost. Total

returns include reinvestment of dividends and capital gains and are net of all fund fees and expenses.

Performance figures are based on Net Asset Value (NAV) within a qualified retirement plan. If an individual were to purchase shares outside of a qualified plan, they would likely be subject to all, or a portion of, any applicable sales charges. These charges would lower the performance indicated above.

Each fund's performance may, from time to time, have been affected significantly by material market and economic conditions, including interest rates, market trends, and general business and economic cycles, which may or may not be repeated in the future. Also, keep in mind that any double-digit returns are highly unusual and cannot be sustained. Such returns are primarily achieved during favorable market conditions.

Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns include the reinvestment of all dividends, but do not reflect the payment of transaction costs, advisory fees or expenses that are associated with an investment. The indices selected by Hyas Group to measure performance are representative of broad asset classes. Hyas Group retains the right to change representative indices at any time. Performance of indices may be more or less volatile than any investment product. The risk of loss in value of a specific investment is not the same as the risk of loss in a broad market index. Therefore, the historical returns of an index will not be the same as the historical returns of a particular investment a client selects. Past performance does not guarantee future results.

The "Investment Policy Statement Compliance Report" indicates funds that are on the Plan's Watch List, as based on investment monitoring criteria which is provided to Hyas Group by the plan sponsor. The plan sponsor should inform its Hyas Group Consultant of any changes to the plan's investment policy.

Fund data provided by Morningstar.

**Peer Groups.** Peer Groups are a collection of similar investment strategies that essentially group investment products that share the same investment approach. Peer Groups are used for comparison purposes to compare and illustrate a client's investment portfolio versus its peer across various quantitative metrics like performance and risk. Peer Group comparison is conceptually another form of benchmark comparison whereby the actual investment can be ranked versus its peer across various quantitative metrics. All Peer Group data are provided by Investment Metrics, LLC. The URL below provides all the definitions and methodology about the various Peer Groups <https://www.invmetrics.com/style-peer-groups>

**Peer Group Ranking Methodology.** A percentile rank denotes the value of a product in which a certain percent of observations falls within a peer group. The range of percentile rankings is between 1 and 100, where 1 represents a high statistical value and 100 represents a low statistical value. The 30th percentile, for example, is the value in which 30% of the highest observations may be found, the 65th percentile is the value in which 65% of the highest observations may be found, and so on.

Percentile rankings are calculated based on a normalized distribution ranging from 1 to 100 for all products in each peer group, where a ranking of 1 denotes a high statistical value and a ranking of 100 denotes a low statistical value. It is important to note that the same ranking methodology applies to all statistics, implying that a ranking of 1 will always mean highest value across all statistics.

For example, consider a risk/return assessment using standard deviation as a measure of risk. A percentile ranking equal to 1 for return denotes highest return, whereas a percentile ranking of 1 for standard deviation denotes highest risk among peers.

In addition, values may be used to demonstrate quartile rankings. For example, the third quartile is also known as the 75th percentile, and the median is the 50th percentile.

Hyas Group is a separate business unit within Morgan Stanley Institutional Advisors LLC.