

## 457(b) Deferred Compensation and OBRA Plans

September 30, 2022 Performance Report

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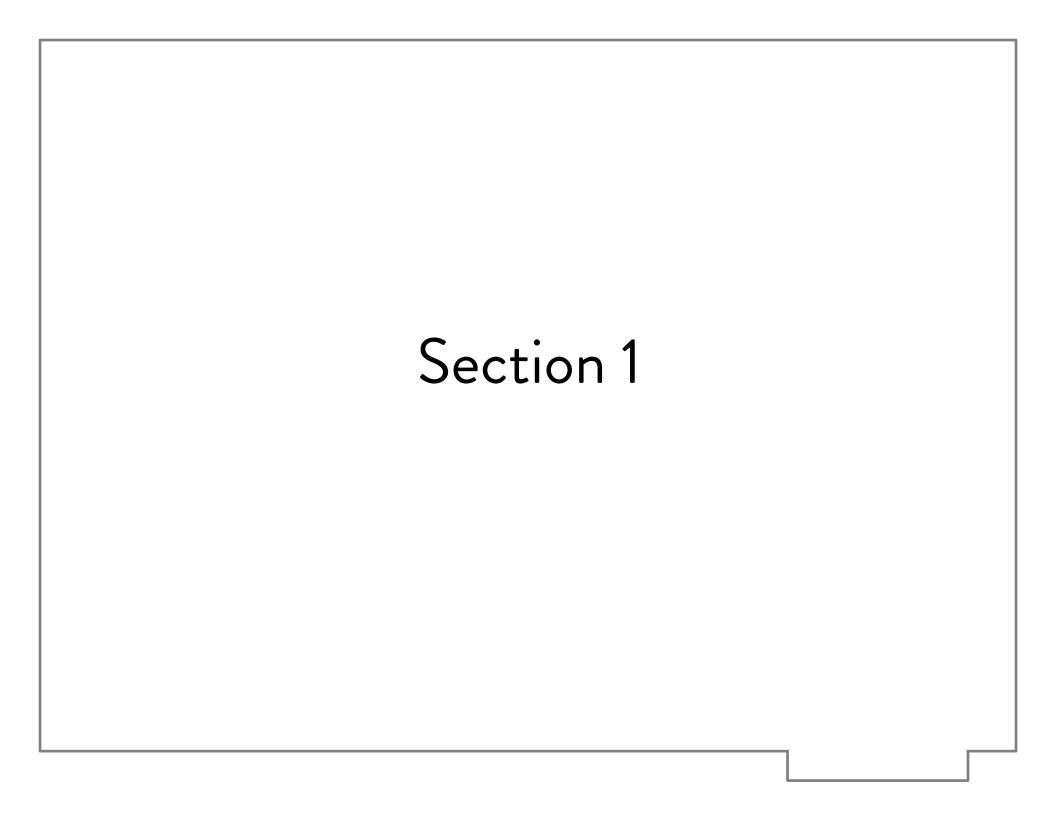
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# THIRD QUARTER 2022 MARKETS AND ECONOMIC UPDATE

#### THE NOMINALLY OBSCURE MOLODOVKSY EFFECT

The Molodovsky Effect (ME) is typically not the first topic of conversation at financial planning sessions though the subject is relevant at this economic juncture. Stemming from Nicholas Molodovsky's 1953 article in the Financial Analysts Journal, the ME is the observation that price-to-earnings ratios of stocks (P/E) tend to increase in economic downturns. The supporting intuition is simple: if earnings drop more than prices during a recession, a P/E ratio may increase, leaving stocks more expensive than they started. Logical as this sounds, it may counter other market intuition, such as that stocks tend to fare well when they are cheap but they also fare well when the economy is recovering. How could stocks start out expensive but still provide above-average returns? Either way, is the ME still valid?<sup>1</sup>

The disconnect not notwithstanding, the ME observations have continued to hold accurate. To wit, US Large Cap Stocks have tended to provide above-average returns when the P/E was below-average. This same category of stocks has also averaged 9.9% for the first two years coming out of recessions since 1953 versus their average of 7.3% for the entire period. As for the ME's real-time accuracy, the P/E of the S&P Large Cap Composite Index has increased in nine of the eleven recessions from 1953 to present by an average of 12% (by 52% if you include the great financial crisis). What reconciles these seemingly conflicting tendencies? Likely the combination of improving sentiment bolstered by reduced borrowing costs found at the end of recessions. Earnings have tended to grow well above their long-term averages for the two years coming out of recessions while long-term interest rates tend to stay relatively low. The resulting combination of improving stock fundamentals which compare more favorably to bond yields can serve as a market tailwind. It is also worth considering that the stock market, as a forward-looking mechanism, tends to move ahead of improvement in the broader economy. As such, the P/E ratio tends to bottom before the end of a recession even though earnings have not, meaning that some of the ratio's increase relative to the ME may reflect increasing optimism.<sup>2</sup>

If the United States is currently in recession, the ME will get another chance to demonstrate its validity. Regardless of this, the market and economic history orbiting the ME is of greater practical insight to investors than the phenomenon itself; namely that market timing around recessions is a challenging endeavor. There is no rule around how long it takes for the National Bureau of Economic Research to declare a recession (it once took twenty-one months) or that it must be declared before it is over. Timing one's market exposure around such announcements could lead to selling after recessionary fears have been priced in or re-entering the market long after a rebound. Moving this subject to the present, the S&P 500 Index returned -23.9% for the first three quarters of 2022. Whether or not the stock market will end the year lower or if a recession will be declared by then, investors may note that valuations ended the third quarter at levels more in line with longer-term averages. Investors with an adequate time horizon and risk-tolerance may see this as reason enough to look beyond near-term recessionary fears.<sup>3</sup>

<sup>&</sup>lt;sup>1</sup> Sources: "A Theory of Price Earnings Ratios", Financial Analysts Journal, 1953; P/E ratio refers to the price of the S&P Composite Index divided by the trailing twelve months of nominal earnings, derived from data from Robert J. Shiller.

<sup>&</sup>lt;sup>2</sup> Sources: Robert J. Shiller S&P Data. St. Louis Federal Reserve, Standard and Poors, Morningstar.

<sup>&</sup>lt;sup>3</sup> Sources: National Bureau of Economic Research, JP Morgan.

#### GLOBAL ECONOMIC LANDSCAPE

- In October 2022, the International Monetary Fund lowered its global growth expectations for 2023 to 2.7%, down from 2.9% in July; its lowest since 2001. Within this was the expectation that over a third of the global economy will see two quarters of contraction while larger ones such as the United States, China, and the European Union will stall. These growth scenarios include a battery of negative scenarios including persistently high inflation, aggressive monetary policies, energy shortages in Europe, the war in Ukraine, and financial market fragility.<sup>4</sup>
- Treasury yields continued their climb throughout the third quarter of 2022 with the 10-year rising from 2.98% to 3.83%. The Federal Reserve's release of its economic projections on September 21, which forecast a federal funds rate of 4.6% for 2023, added fuel to the run-up. In contrast, market-based indicators of rate expectations (such as the fed fund futures) are pricing in moderately lower rates than what the Fed is expecting for the next several quarters.<sup>5</sup>
- US job openings fell by over one million in August 2022, their largest drop since April 2020 and eliciting speculation that the labor market may indeed be cooling. In agreement with economists' views that job openings may continue to decrease, some equity sector analysts have reported that companies may be closing out non-essential job openings, reducing the demand for labor and contrasting the Fed's view that an "extraordinarily" tight job market may tolerate additional rate increases.<sup>6</sup>
- September's inflation reading showed that the core Consumer Price Index increased 6.6% for the trailing year, its highest reading since 1982. Despite this high reading, forward-looking inflation expectations remain muted. Five-year inflation expectations implied from the US Treasury market ended the quarter at 2.14%, down from 2022's high of 3.59%. Part of the explanation for this divergence may be because corporations currently sit on high inventory levels. The extent to which this overstock crimps corporate demand and induces write-downs and discounted selling may work against inflation.<sup>7</sup>

#### **GLOBAL FINANCIAL MARKETS**

- Bond markets continued their collective slump, with the Bloomberg US and Global Aggregate Bond indexes returning -4.75% and -6.94% respectively for the third quarter. In partial offset, rising yields work against duration, leaving bonds marginally less sensitive to future rate increases. The durations of the US and international bond markets are 7% and 11% lower than they stood on September 30, 2021.8
- Going into the third quarter, a variety of leading indicators continue to bode ominously for the US stock market. A composite of consumer confidence, housing starts, manufacturing, and credit spreads, all of which tend to lead earnings growth in the S&P 500 suggest a year-over-

<sup>&</sup>lt;sup>4</sup> Source: International Monetary Fund, World Economic Outlook, "Countering the Cost-of-Living Crisis", October 2022.

<sup>&</sup>lt;sup>5</sup> Sources: Federal Reserve "Summary of Economic Projections", September 2022, and Morgan Stanley's "GIC Weekly" October 10, 2022.

<sup>&</sup>lt;sup>6</sup> Sources: Bloomberg "US Job Openings Drop to 10.1 Million, Lowest Since June 2021", October 4, 2022, and Morgan Stanley's "Job Gains Start to Fade", October 4, 2022.

<sup>&</sup>lt;sup>7</sup> Source: Morgan Stanley's "Monthly Perspectives", October 2022, Morgan Stanley's "Daily Positioning", October 13, 2022, and data from St. Louis Federal Reserve.

 $<sup>^{8}</sup>$  Source: JP Morgan's "Guide to the Markets", September 30, 2022.

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year earnings decline. Similarly, measures of corporate profitability such as the difference between final demand and wages as well as producer versus consumer prices imply that operating margins are likely to decline in the coming quarters.<sup>9</sup>

- Thirty-year mortgage rates ended the third quarter at 6.70%, rising by 1.00% over the three-month period to their highest level since 2007. Mortgage-backed securities ended the quarter trading at spreads well above their longer-term averages. The extent to which these valuations attract institutional investors may offset the upward price pressure stemming from monetary policy.<sup>10</sup>
- Exchange rates continued to exhibit extreme movements through the third quarter, with currency volatility at its highest in ten years, the US Dollar at its highest valuation in two decades, and the British Pound approaching a near all-time low. Many investors continue to be net long the US Dollar and decelerating global growth coupled with a still-tightening Federal Reserve may provide a further tailwind for the greenback.<sup>11</sup>

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<sup>&</sup>lt;sup>9</sup> Source: Morgan Stanley's "Monthly Perspectives", October 2022.

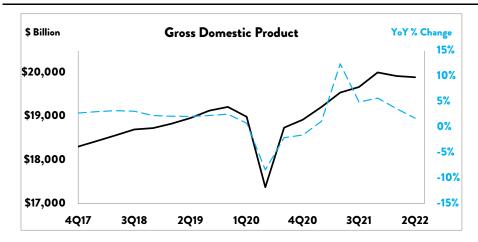
<sup>&</sup>lt;sup>10</sup> Sources: Data from St. Louis Federal Reserve, and Morgan Stanley's, "GIC Weekly", October 3, 2022.

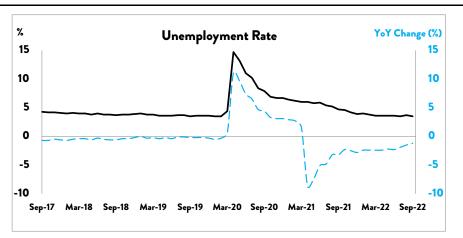
<sup>&</sup>lt;sup>11</sup> Source: Morgan Stanley's "Global Insights", October 12, 2022.

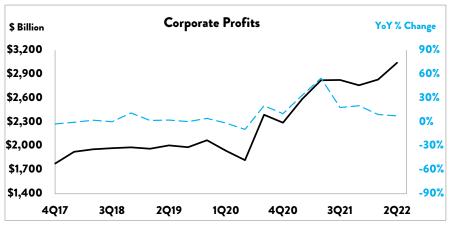
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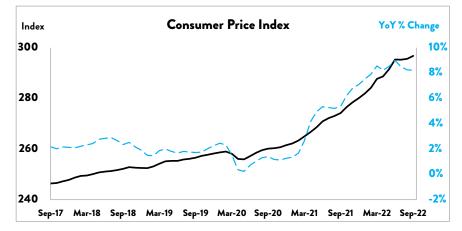
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## 3Q2022 Economic Data









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	263,000	4,505,000	-20,493,000	100,100	Sep-22			
Unemployment Rate	3.5%	14.7%	3.5%	4.9%	Sep-22			
Median Unemployment Length (Weeks)	8.8	22.2	4.0	11.2	Sep-22			
Average Hourly Earnings	\$32.46	\$32.46	\$26.49	\$29.14	Sep-22			

Other Prices and Indexes (Monthly)								
Category	Recent	5-Yr High	5-Yr Low	% Off Peak	Date			
Gas: Price per Gallon	\$3.65	\$4.84	\$1.80	-24.6%	Sep-22			
Spot Oil	\$84.26	\$114.84	\$16.55	-26.6%	Sep-22			
Case-Shiller Home Price Index	314.8	316.2	201.0	56.6%*	Jul-22			
Medical Care CPI	557.4	557.4	477.7	16.7%*	Sep-22			

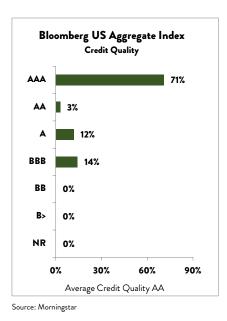
Source: Federal Reserve Bank of St. Louis and Bureau of Labor Statistics

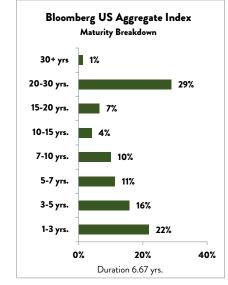
\*% Off Low Morningstar data as of 9/30/2022

## 3Q2022 Bond Market Data

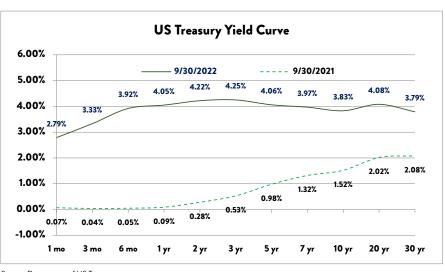
Index	QTR	YTD	1 yr.	3 yrs.	5 yrs.	10 yrs.
90-Day T-Bill	0.67%	1.02%	1.04%	0.61%	1.16%	0.69%
Bloomberg US Aggregate	-4.75%	-14.61%	-14.60%	-3.26%	-0.27%	0.89%
Bloomberg Short US Treasury	0.28%	0.13%	0.11%	0.54%	1.13%	0.72%
Bloomberg Int. US Treasury	-3.08%	-8.70%	-9.23%	-1.72%	0.17%	0.59%
Bloomberg Long US Treasury	-9.63%	-28.84%	-26.65%	-8.51%	-1.62%	0.59%
Bloomberg US TIPS	-5.14%	-13.61%	-11.57%	0.79%	1.95%	0.98%
Bloomberg US Credit	-4.95%	-18.07%	-17.89%	-3.61%	-0.05%	1.58%
Bloomberg US Mortgage-Backed	-5.35%	-13.66%	-13.98%	-3.67%	-0.92%	0.51%
Bloomberg US Asset-Backed	-1.34%	-5.06%	-5.61%	-0.24%	1.02%	1.17%
Bloomberg US 20-Yr Municipal	-4.38%	-15.44%	-14.43%	-2.51%	0.69%	2.22%
Bloomberg US High Yield	-0.65%	-14.74%	-14.14%	-0.45%	1.57%	3.94%
Bloomberg Global	-6.94%	-19.89%	-20.43%	-5.74%	-2.32%	-0.93%
Bloomberg International	-8.85%	-23.88%	-24.77%	-7.78%	-4.03%	-2.39%
Bloomberg Emerging Market	-4.06%	-20.50%	-20.92%	-5.26%	-1.56%	1.39%

Source: Morningstar

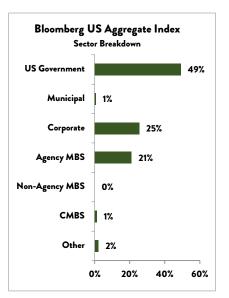




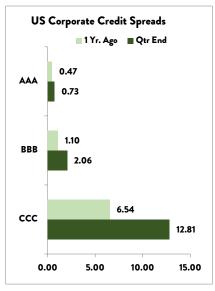
Source: Morningstar



Source: Department of US Treasury



Source: Morningstar



Source: Federal Reserve / Bank of America

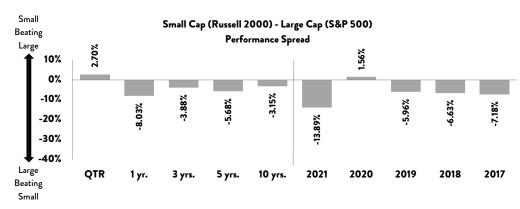
# 3Q2022 US Equity Market Data

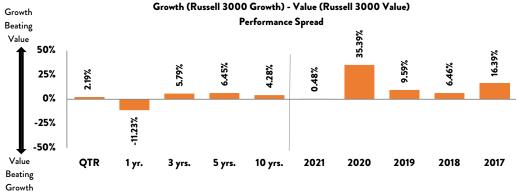
Sect	ors Weig	hts/Returns (ranked by qua	arter performanc	e)	
	Wgt.	Sector	QTR	YTD	1 yr.
	12%	Consumer Discretionary	4.36%	-29.89%	-20.89%
	5%	Energy	2.35%	34.94%	45.70%
	11%	Financials	-3.10%	-21.25%	-17.65%
dex	8%	Industrials	-4.72%	-20.72%	-13.87%
-	15%	Health Care	-5.18%	-13.08%	-3.37%
S&P 500 Index	3%	Utilities	-5.99%	-6.51%	5.58%
8	26%	Information Technology	-6.21%	-31.44%	-20.00%
٠ <i>,</i>	7%	Consumer Staples	-6.62%	-11.83%	-0.09%
	3%	Materials	-7.13%	-23.74%	-12.15%
	3%	Real Estate	-11.03%	-28.85%	-16.37%
	8%	Communication Services	-12.72%	-39.04%	-39.05%
	Wgt.	Sector	QTR	YTD	1 yr.
	5%	Energy	5.53%	23.70%	27.20%
×	19%	Industrials	1.31%	-21.52%	-12.40%
nde	16%	Financials	0.54%	-11.51%	-5.29%
0	4%	Consumer Staples	-1.92%	-11.07%	-4.47%
S&P Midcap 400 Index	12%	Information Technology	-2.15%	-27.28%	-21.28%
deal	14%	Consumer Discretionary	-2.90%	-30.87%	-27.99%
Ž	2%	Communication Services	-3.60%	-23.68%	-25.77%
∞ ∞	10%	Health Care	-5.05%	-24.02%	-23.00%
	7%	Materials	-6.21%	-20.22%	-9.35%
	4%	Utilities	-9.61%	-10.55%	-0.60%
	8%	Real Estate	-9.67%	-29.00%	-18.94%
	Wgt.	Sector	QTR	YTD	1 yr.
	5%	Energy	-2.12%	22.78%	13.30%
×	19%	Financials	-2.59%	-19.80%	-15.46%
<u> </u>	13%	Health Care	-4.04%	-26.68%	-27.95%
0	6%	Materials	-4.10%	-15.78%	-10.58%
S&P Smallcap 600 Index	13%	Consumer Discretionary	-4.20%	-34.92%	-32.49%
= =	16%	Industrials	-4.43%	-20.99%	-13.40%
S	13%	Information Technology	-4.44%	-28.17%	-20.33%
<b>∞</b>	5%	Consumer Staples	-7.35%	-14.79%	-5.79%
<i>o</i> ,	2%	Utilities	-8.47%	-12.86%	2.95%
	2%	Communication Services	-10.54%	-32.30%	-34.70%
	8%	Real Estate	-14.51%	-35.32%	-29.66%

Source: Morningstar

#### Index Performance Data

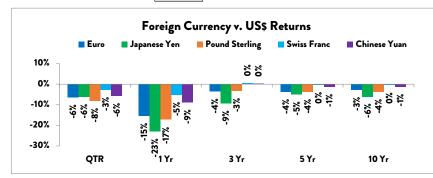
					Annualized	
Index	QTR	YTD	1 yr.	3 yrs.	5 yrs.	10 yrs.
S&P 500	-4.88%	-23.87%	-15.47%	8.16%	9.24%	11.70%
Russell 1000 Value	-5.62%	-17.75%	-11.36%	4.36%	5.29%	9.17%
Russell 1000 Growth	-3.60%	-30.66%	-22.59%	10.67%	12.17%	13.70%
Russell Mid Cap	-3.44%	-24.27%	-19.39%	5.19%	6.48%	10.30%
Russell Mid Cap Value	-4.93%	-20.36%	-13.56%	4.50%	4.76%	9.44%
Russell Mid Cap Growth	-0.65%	-31.45%	-29.50%	4.26%	7.62%	10.85%
Russell 2000	-2.19%	-25.10%	-23.50%	4.29%	3.55%	8.55%
Russell 2000 Value	-4.61%	-21.12%	-17.69%	4.72%	2.87%	7.94%
Russell 2000 Growth	0.24%	-29.28%	-29.27%	2.94%	3.60%	8.81%
Russell 3000	-4.46%	-24.62%	-17.63%	7.70%	8.62%	11.39%
DJ US Select REIT	-10.37%	-29.32%	-17.15%	-3.29%	1.95%	5.49%





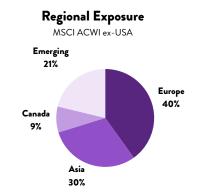
## 3Q2022 International Market Data

Index Performance Data (net)						
Index (US\$)	QTR	YTD	1 yr.	3 yrs.	5 yrs.	10 yrs.
MSCI ACWI ex-US	-9.91%	-26.50%	-25.17%	-1.52%	-0.81%	3.01%
MSCI EAFE	-9.36%	-27.09%	-25.13%	-1.83%	-0.84%	3.67%
Europe	-10.15%	-28.83%	-24.80%	-1.72%	-1.24%	3.45%
United Kingdom	-10.76%	-18.65%	-14.08%	-1.73%	-1.06%	1.88%
Germany	-12.59%	-37.66%	-37.15%	-6.97%	-6.68%	1.25%
France	-8.88%	-29.07%	-24.03%	-1.45%	-0.36%	5.11%
Pacific	-8.09%	-23.80%	-25.87%	-2.15%	-0.16%	4.11%
Japan	-7.67%	-26.38%	-29.30%	-2.65%	-0.63%	4.84%
Hong Kong	-16.97%	-19.39%	-22.25%	-4.18%	-2.34%	3.60%
Australia	-6.74%	-18.09%	-16.37%	0.54%	2.40%	3.15%
Canada	-7.94%	-18.89%	-13.06%	4.12%	3.44%	3.00%
MSCI EM	-11.57%	-27.16%	-28.11%	-2.07%	-1.81%	1.05%
MSCI EM Latin America	3.61%	3.02%	0.24%	-3.39%	-2.64%	-2.28%
MSCI EM Asia	-14.03%	-28.82%	-29.51%	-0.81%	-1.07%	3.08%
MSCI EM Eur/Mid East	-2.60%	-36.13%	-38.07%	-7.42%	-3.51%	-3.54%
MSCI ACWI Value ex-US	-10.44%	-21.00%	-20.02%	-2.15%	-2.12%	1.87%
MSCI ACWI Growth ex-US	-9.37%	-31.84%	-30.22%	-1.38%	0.18%	3.95%
MSCI ACWI Sm Cap ex-US	-8.37%	-29.37%	-28.93%	0.38%	-0.56%	4.44%



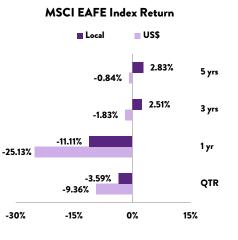
Exchange Rates	QTR	2Q22	1Q22	4Q21	3Q21	2Q21
Japanese Yen	144.71	135.69	121.44	115.17	111.50	111.05
Euro	1.02	0.96	0.90	0.88	0.86	0.84
British Pound	0.90	0.82	0.76	0.74	0.74	0.72
Swiss Franc	0.98	0.96	0.92	0.91	0.93	0.93
Chinese Yuan	7.11	6.70	6.34	6.37	6.44	6.46

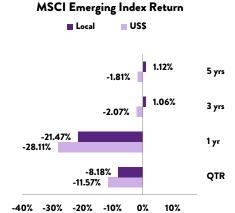
Source: Federal Reserve Bank of St. Louis

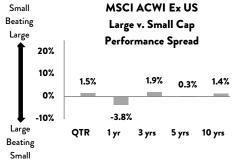


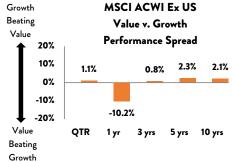


Source: Morningstar









Performance Source: Morningstar

#### Historical Market Returns

Ranked by Performance

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD	3Q22
Emerging Markets 39.42%	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. 13.57%	Cash 0.67%
Intl 16.65%	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 12.40%	Core Real Estate 0.35%
Commod. 16.23%	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 1.02%	High Yield -0.65%
Core Real Estate 14.84%	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%	TIPS -13.61%	Small Cap 2.19%
TIPS 11.64%	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%	US Bonds -14.61%	Mid Cap -3.44%
Global Bonds 9.48%	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%	High Yield -14.74%	Commod4.11%
Global Balanced 9.07%	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%	Global Bonds -19.89%	US Bonds -4.75%
US Bonds 6.97%	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 Balanced 22.23%	Large Cap 4.88%
Mid Cap 5.60%	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%	Large Cap -23.87%	TIPS -5.14%
Large Cap 5.49%	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 -24.27%	Global Balanced 6.11%
Cash 4.44%	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%	Small Cap 25.10%	Global Bonds -6.94%
High Yield 1.87%	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%	Intl 26.50%	Intl 9.91%
Small Cap 1.57%	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%	Commod24.60%	Cash 0.25%	Cash 0.71%	Emerging Markets -14.58%	Cash 2.30%	Commod. -3.12%	Global Bonds -4.71%	Emerging Markets -27.16%	Emerging Markets -11.57%

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 ASSET ALLOCATION**

Third Quarter 2022

Combined 457(b) DC Plans

Fixed Income	Ticker	Assets	%
Voya Fixed Account	-	\$346,352,534	37.8%
Vanguard Total Bond Market Index I	VBTIX	\$32,839,572	3.6%
Sterling Capital Total Return Bond R6	STRDX	\$1,574,360	0.2%
	Total	\$380,766,466	41.5%

Large Cap	Ticker	Assets	%
MFS Value R4	WEIJX	\$19,043,126	2.1%
Vanguard Institutional Index Instl Plus	VIIIX	\$115,116,246	12.5%
T. Rowe Price Growth Stock I	PRUFX	\$53,283,892	5.8%
	Total	\$187,443,264	20.4%

Mid Cap	Ticker	Assets	%
Vanguard Mid-Cap Value Index Adm	VMVAX	\$6,897,596	0.8%
Vanguard Extended Market Index Instl Plus	VEMPX	\$86,387,377	9.4%
Vanguard Mid-Cap Growth Index Adm	VMGMX	\$17,859,557	1.9%
	Total	\$111,144,530	12.1%

International	Ticker	Assets	%
Vanguard Total Intl Stock Index I	VTSNX	\$33,686,282	3.7%
American Funds EuroPacific Growth R6	RERGX	\$5,572,137	0.6%
	Total	\$39,258,418	4.3%

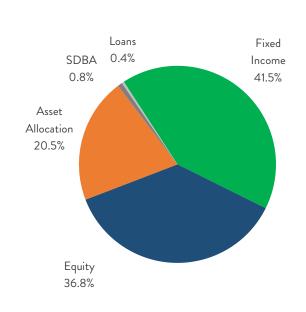
Asset Allocation	Ticker	Assets	%
Vanguard Target Retirement Income	VTINX	\$39,033,584	4.3%
Vanguard Target Retirement 2020	VTWNX	\$10,828,047	1.2%
Vanguard Target Retirement 2025	VTTVX	\$38,795,976	4.2%
Vanguard Target Retirement 2030	VTHRX	\$12,722,906	1.4%
Vanguard Target Retirement 2035	VTTHX	\$44,636,567	4.9%
Vanguard Target Retirement 2040	VFORX	\$6,881,989	0.8%
Vanguard Target Retirement 2045	VTIVX	\$21,762,198	2.4%
Vanguard Target Retirement 2050	VFIFX	\$4,469,952	0.5%
Vanguard Target Retirement 2055	VFFVX	\$6,202,341	0.7%
Vanguard Target Retirement 2060	VTTSX	\$1,654,404	0.2%
Vanguard Target Retirement 2065	VLXVX	\$1,367,738	0.1%
	Total	\$188,355,703	20.5%

Miscellaneous	Ticker	Assets	%
Self-Directed Brokerage Account	-	\$7,009,668	0.8%
Participant Loans	-	\$3,402,830	0.4%
	Total	\$10,412,499	1.1%

TOTAL PLAN ASSETS	\$917,380,881
Administrative Account Balance (10/18/22)	\$270,892

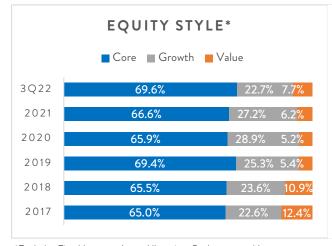
Third Quarter 2022

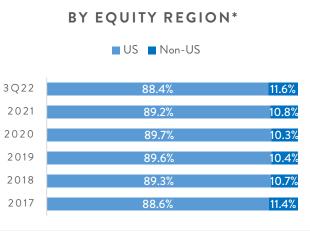
Combined 457(b) DC Plans

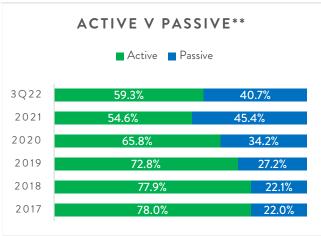


#### HISTORICAL PLAN ALLOCATION

Asset Class	3Q22	2021	2020	2019	2018	2017	2016	2015
Fixed Income	41.5%	34.0%	36.7%	38.1%	43.8%	41.5%	N/A	N/A
Large Cap	20.4%	24.4%	22.4%	21.8%	18.8%	20.4%	N/A	N/A
Mid Cap	12.1%	14.5%	14.9%	14.4%	13.4%	14.2%	N/A	N/A
International	4.3%	4.7%	4.3%	4.2%	4.0%	4.4%	N/A	N/A
Asset Allocation	20.5%	21.3%	20.7%	20.7%	19.2%	18.7%	N/A	N/A
SDBA	0.8%	0.9%	0.6%	0.4%	0.3%	0.3%	N/A	N/A
Loans	0.4%	0.3%	0.3%	0.4%	0.5%	0.4%	N/A	N/A







<sup>\*</sup>Excludes Fixed Income, Asset Allocation, Brokerage, and Loan assets

<sup>\*\*</sup>Excludes Asset Allocation, Brokerage, and Loan assets

Combined 457(b) DC Plans

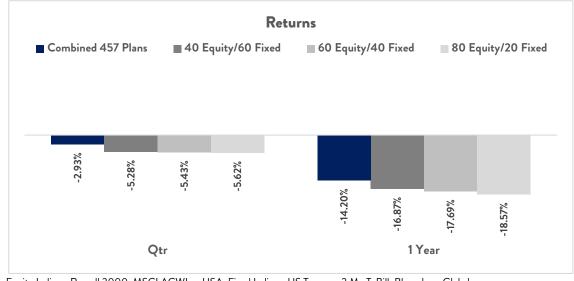
Third Quarter 2022

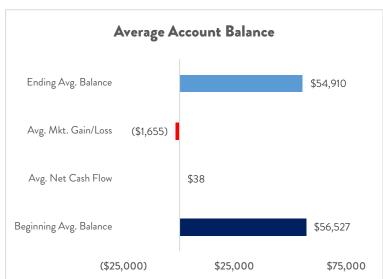
#### **PLAN LEVEL CASH FLOWS**

		Cash Flow	Cash Flow		Market	
	Beginning Value	(+)	(-)	Transfer	Gain/Loss	Ending Value
Fixed Income	\$381,983,004	\$4,233,250	(\$7,914,159)	\$1,554,299	\$910,072	\$380,766,466
Large Cap	\$196,000,069	\$2,648,646	(\$2,458,690)	(\$3,099)	(\$8,743,661)	\$187,443,264
Mid Cap	\$114,421,142	\$1,570,412	(\$1,183,779)	(\$294,408)	(\$3,368,838)	\$111,144,530
International	\$42,848,167	\$810,596	(\$525,483)	\$653,232	(\$4,528,094)	\$39,258,418
Asset Allocation	\$198,564,410	\$6,256,024	(\$2,939,506)	(\$2,045,146)	(\$11,480,079)	\$188,355,703
SDBA	\$7,080,221	\$0	\$0	\$265,938	(\$336,491)	\$7,009,668
Total	\$940,897,013	\$15,518,928	(\$15,021,617)	\$130,817	(\$27,547,090)	\$913,978,050

#### HISTORICAL PLAN CASH FLOWS

	Beginning		Market	
	Value	Net Cash Flow	Gain/Loss	Ending Value
3Q22	\$940,897,013	\$628,128	(\$27,547,090)	\$913,978,050
YTD	\$1,103,984,931	(\$1,903,036)	(\$188,103,845)	\$913,978,050
2021	\$1,012,211,305	(\$19,402,347)	\$111,175,973	\$1,103,984,931
2020	\$890,766,732	\$942,462	\$120,502,111	\$1,012,211,305
2019	\$771,229,524	(\$7,494,189)	\$127,031,396	\$890,766,732
2018	\$801,580,360	(\$9,496,515)	(\$20,854,320)	\$771,229,524





 $Equity\ Indices:\ Russell\ 3000,\ MSCI\ ACWI\ ex\ USA;\ Fixed\ Indices:\ US\ Treasury\ 3\ Mo\ T-Bill,\ Bloomberg\ Global$ 

Aggregate Bond (rebalanced quarterly)

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## **STATE EMPLOYEES PLAN**

## **PLAN ASSET ALLOCATION**

Third Quarter 2022

457(b) Deferred Compensation Plan

Fixed Income	Ticker	Assets	%
Voya Fixed Account	-	\$244,054,056	39.8%
Vanguard Total Bond Market Index I	∨BTIX	\$20,877,979	3.4%
Sterling Capital Total Return Bond R6	STRDX	\$898,538	0.1%
	Total	\$265,830,573	43.4%

Large Cap	Ticker	Assets	%
MFS Value R4	WEIJX	\$12,517,477	2.0%
Vanguard Institutional Index Instl Plus	VIIIX	\$74,188,397	12.1%
T. Rowe Price Growth Stock I	PRUFX	\$33,895,536	5.5%
	Total	\$120,601,410	19.7%

Mid Cap	Ticker	Assets	%
Vanguard Mid-Cap Value Index Adm	VMVAX	\$3,845,220	0.6%
Vanguard Extended Market Index Instl Plus	VEMPX	\$56,453,764	9.2%
Vanguard Mid-Cap Growth Index Adm	VMGMX	\$11,574,249	1.9%
	Total	\$71,873,232	11.7%

International	Ticker	Assets	%
Vanguard Total Intl Stock Index I	VTSNX	\$20,135,746	3.3%
American Funds EuroPacific Growth R6	RERGX	\$3,349,152	0.5%
	Total	\$23,484,898	3.8%

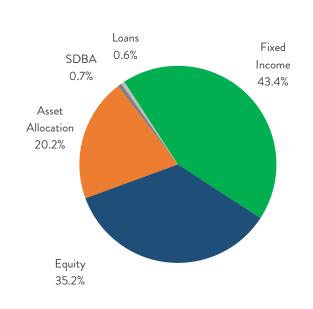
Asset Allocation	Ticker	Assets	%
Vanguard Target Retirement Income	VTINX	\$30,195,867	4.9%
Vanguard Target Retirement 2020	VTWNX	\$6,440,649	1.1%
Vanguard Target Retirement 2025	VTTVX	\$25,391,096	4.1%
Vanguard Target Retirement 2030	VTHRX	\$7,187,957	1.2%
Vanguard Target Retirement 2035	VTTHX	\$31,516,023	5.1%
Vanguard Target Retirement 2040	VFORX	\$3,819,645	0.6%
Vanguard Target Retirement 2045	VTIVX	\$12,493,968	2.0%
Vanguard Target Retirement 2050	VFIFX	\$2,121,801	0.3%
Vanguard Target Retirement 2055	VFFVX	\$3,458,589	0.6%
Vanguard Target Retirement 2060	VTTSX	\$729,856	0.1%
Vanguard Target Retirement 2065	VLXVX	\$529,227	0.1%
	Total	\$123,884,680	20.2%

Miscellaneous	Ticker	Assets	%
Self-Directed Brokerage Account	-	\$4,035,768	0.7%
Participant Loans	-	\$3,396,149	0.6%
	Total	\$7,431,917	1.2%

TOTAL PLAN ASSETS	\$613,106,710
Administrative Account Balance (10/18/22)	\$270,892

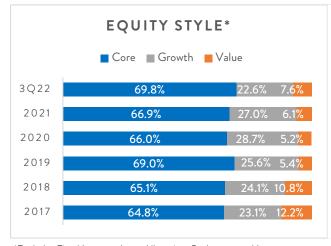
Third Quarter 2022

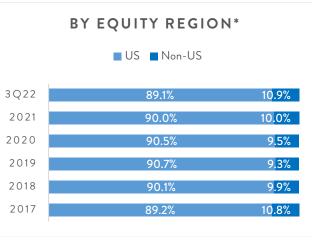
457(b) Deferred Compensation Plan

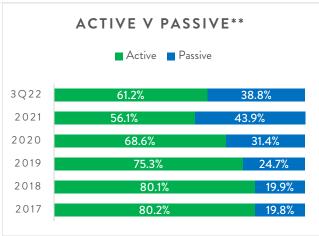


#### HISTORICAL PLAN ALLOCATION

Asset Class	3Q22	2021	2020	2019	2018	2017	2016	2015
Fixed Income	43.4%	35.4%	38.0%	40.1%	44.9%	42.8%	N/A	N/A
Large Cap	19.7%	23.7%	21.5%	20.6%	18.6%	19.1%	N/A	N/A
Mid Cap	11.7%	14.2%	14.5%	13.8%	12.6%	13.6%	N/A	N/A
International	3.8%	4.2%	3.8%	3.5%	3.4%	4.0%	N/A	N/A
Asset Allocation	20.2%	21.3%	21.2%	21.1%	19.4%	19.6%	N/A	N/A
SDBA	0.7%	0.7%	0.5%	0.3%	0.3%	0.3%	N/A	N/A
Loans	0.6%	0.5%	0.5%	0.6%	0.7%	0.6%	N/A	N/A







<sup>\*</sup>Excludes Fixed Income, Asset Allocation, Brokerage, and Loan assets

<sup>\*\*</sup>Excludes Asset Allocation, Brokerage, and Loan assets

457(b) Deferred Compensation Plan

Third Quarter 2022

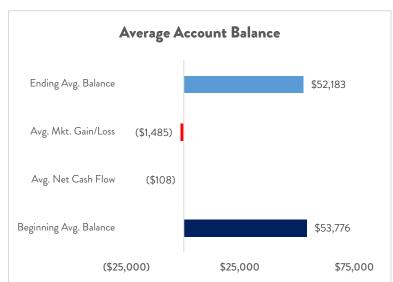
#### **PLAN LEVEL CASH FLOWS**

#### **HISTORICAL PLAN CASH FLOWS**

		Cash Flow	Cash Flow		Market	
	Beginning Value	(+)	(-)	Transfer	Gain/Loss	Ending Value
Fixed Income	\$266,043,146	\$2,383,189	(\$4,899,244)	\$1,547,004	\$756,478	\$265,830,573
Large Cap	\$126,512,053	\$1,586,194	(\$1,927,147)	\$27,541	(\$5,597,231)	\$120,601,410
Mid Cap	\$74,649,777	\$876,620	(\$976,857)	(\$544,951)	(\$2,131,357)	\$71,873,232
International	\$25,505,384	\$469,735	(\$383,832)	\$594,793	(\$2,701,182)	\$23,484,898
Asset Allocation	\$131,580,329	\$3,675,883	(\$2,194,349)	(\$1,725,293)	(\$7,451,891)	\$123,884,680
SDBA	\$4,026,504	\$0	\$0	\$232,938	(\$223,675)	\$4,035,768
Total	\$628,317,193	\$8,991,622	(\$10,381,430)	\$132,033	(\$17,348,857)	\$609,710,561

			Market	
	Beginning Value	Net Cash Flow	Gain/Loss	Ending Value
3Q22	\$628,317,193	(\$1,257,775)	(\$17,348,857)	\$609,710,561
YTD	\$736,232,396	(\$5,990,551)	(\$120,531,284)	\$609,710,561
2021	\$680,605,231	(\$16,866,120)	\$72,493,284	\$736,232,396
2020	\$608,234,330	(\$6,442,157)	\$78,813,059	\$680,605,231
2019	\$537,863,111	(\$14,358,576)	\$84,729,795	\$608,234,330
2018	\$562,293,890	(\$11,362,468)	(\$13,068,311)	\$537,863,111





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

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## **POLITICAL SUBDIVISIONS**

## **PLAN ASSET ALLOCATION**

457(b) Deferred Compensation Plan

Third Quarter 2022

Fixed Income	Ticker	Assets	%
Voya Fixed Account	-	\$85,923,092	38.3%
Vanguard Total Bond Market Index I	∨BTIX	\$7,891,009	3.5%
Sterling Capital Total Return Bond R6	STRDX	\$318,100	0.1%
	Total	\$94,132,201	41.9%

Large Cap	Ticker	Assets	%
MFS Value R4	WEIJX	\$5,157,510	2.3%
Vanguard Institutional Index Instl Plus	VIIIX	\$28,475,928	12.7%
T. Rowe Price Growth Stock I	PRUFX	\$14,897,604	6.6%
	Total	\$48,531,041	21.6%

Mid Cap	Ticker	Assets	%
Vanguard Mid-Cap Value Index Adm	VMVAX	\$1,823,424	0.8%
Vanguard Extended Market Index Instl Plus	VEMPX	\$22,187,959	9.9%
Vanguard Mid-Cap Growth Index Adm	VMGMX	\$3,846,701	1.7%
	Total	\$27,858,084	12.4%

International	Ticker	Assets	%
Vanguard Total Intl Stock Index I	VTSNX	\$9,889,633	4.4%
American Funds EuroPacific Growth R6	RERGX	\$1,191,741	0.5%
	Total	\$11,081,373	4.9%

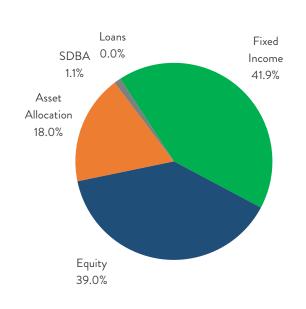
Asset Allocation	Ticker	Assets	%
Vanguard Target Retirement Income	VTINX	\$4,423,018	2.0%
Vanguard Target Retirement 2020	VTWNX	\$2,050,517	0.9%
Vanguard Target Retirement 2025	VTTVX	\$7,621,998	3.4%
Vanguard Target Retirement 2030	VTHRX	\$2,814,547	1.3%
Vanguard Target Retirement 2035	VTTHX	\$8,865,212	4.0%
Vanguard Target Retirement 2040	VFORX	\$1,886,298	0.8%
Vanguard Target Retirement 2045	VTIVX	\$7,183,423	3.2%
Vanguard Target Retirement 2050	VFIFX	\$1,744,985	0.8%
Vanguard Target Retirement 2055	VFFVX	\$2,277,582	1.0%
Vanguard Target Retirement 2060	VTTSX	\$862,919	0.4%
Vanguard Target Retirement 2065	VLXVX	\$612,317	0.3%
	Total	\$40,342,816	18.0%

Miscellaneous	Ticker	Assets	%
Self-Directed Brokerage Account	-	\$2,460,611	1.1%
Participant Loans	-	\$6,681	0.0%
	Total	\$2,467,292	1.1%

TOTAL PLAN ASSETS \$224,412,808

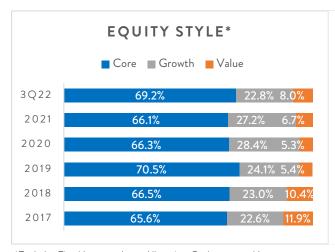
Third Quarter 2022

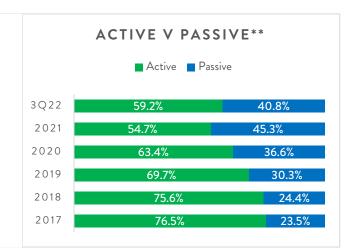
457(b) Deferred Compensation Plan



#### HISTORICAL PLAN ALLOCATION

Asset Class	3Q22	2021	2020	2019	2018	2017	2016	2015
Fixed Income	41.9%	34.5%	37.9%	37.5%	46.2%	42.5%	N/A	N/A
Large Cap	21.6%	25.5%	24.5%	24.4%	17.5%	22.8%	N/A	N/A
Mid Cap	12.4%	15.1%	15.2%	15.3%	15.1%	15.0%	N/A	N/A
International	4.9%	5.5%	5.3%	5.5%	5.2%	5.1%	N/A	N/A
Asset Allocation	18.0%	18.0%	16.2%	16.6%	15.6%	14.0%	N/A	N/A
SDBA	1.1%	1.5%	0.9%	0.7%	0.5%	0.6%	N/A	N/A
Loans	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	N/A	N/A





<sup>\*</sup>Excludes Fixed Income, Asset Allocation, Brokerage, and Loan assets

<sup>\*\*</sup>Excludes Asset Allocation, Brokerage, and Loan assets

457(b) Deferred Compensation Plan

Third Quarter 2022

#### **PLAN LEVEL CASH FLOWS**

Total

\$229,986,979

\$5,025,116

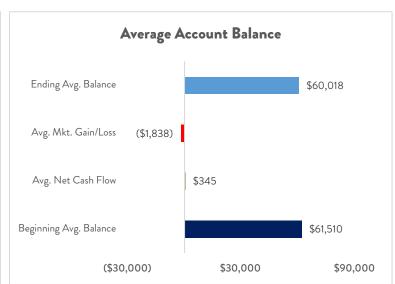
		Cash Flow	Cash Flow		Market	
	Beginning Value	(+)	(-)	Transfer	Gain/Loss	Ending Value
Fixed Income	\$94,669,486	\$1,593,901	(\$2,649,307)	\$266,797	\$251,322	\$94,132,201
Large Cap	\$50,591,309	\$743,315	(\$456,417)	(\$66,805)	(\$2,280,362)	\$48,531,041
Mid Cap	\$28,456,364	\$538,531	(\$170,949)	(\$84,960)	(\$880,902)	\$27,858,084
International	\$12,232,107	\$264,257	(\$112,990)	(\$8,923)	(\$1,293,076)	\$11,081,373
Asset Allocation	\$41,516,736	\$1,885,112	(\$347,266)	(\$136,663)	(\$2,575,103)	\$40,342,816
SDBA	\$2,520,976	\$0	\$0	\$33,000	(\$93,365)	\$2,460,611

(\$3,736,929)

#### **HISTORICAL PLAN CASH FLOWS**

			Market	
	Beginning Value	Net Cash Flow	Gain/Loss	Ending Value
3Q22	\$229,986,979	\$1,290,633	(\$6,871,486)	\$224,406,127
YTD	\$268,237,618	\$3,473,277	(\$47,304,769)	\$224,406,127
2021	\$244,053,779	(\$3,563,244)	\$27,747,083	\$268,237,618
2020	\$211,520,904	\$2,964,561	\$29,568,315	\$244,053,779
2019	\$174,082,438	\$7,146,048	\$30,292,417	\$211,520,904
2018	\$178,524,895	\$683,229	(\$5,125,686)	\$174,082,438





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

(\$6,871,486)

\$2,446

\$224,406,127

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## **NEVADA SYSTEM OF HIGHER EDUCATION**

## **PLAN ASSET ALLOCATION**

457(b) Deferred Compensation Plan

Third Quarter 2022

Fixed Income	Ticker	Assets	%
Voya Fixed Account	-	\$16,375,386	20.5%
Vanguard Total Bond Market Index I	VBTIX	\$4,070,584	5.1%
Sterling Capital Total Return Bond R6	STRDX	\$357,722	0.4%
	Total	\$20,803,692	26.0%

Large Cap	Ticker	Assets	%
MFS Value R4	MEIJX	\$1,368,139	1.7%
Vanguard Institutional Index Instl Plus	VIIIX	\$12,451,921	15.6%
T. Rowe Price Growth Stock I	PRUFX	\$4,490,752	5.6%
	Total	\$18,310,813	22.9%

Mid Cap	Ticker	Assets	%
Vanguard Mid-Cap Value Index Adm	VMVAX	\$1,228,952	1.5%
Vanguard Extended Market Index Instl Plus	VEMPX	\$7,745,655	9.7%
Vanguard Mid-Cap Growth Index Adm	VMGMX	\$2,438,607	3.1%
	Total	\$11,413,214	14.3%

International	Ticker	Assets	%
Vanguard Total Intl Stock Index I	VTSNX	\$3,660,903	4.6%
American Funds EuroPacific Growth R6	RERGX	\$1,031,244	1.3%
	Total	\$4,692,147	5.9%

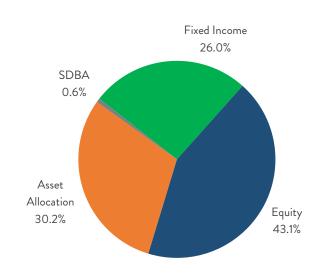
Asset Allocation	Ticker	Assets	%
Vanguard Target Retirement Income	VTINX	\$4,414,700	5.5%
Vanguard Target Retirement 2020	VTWNX	\$2,336,881	2.9%
Vanguard Target Retirement 2025	VTTVX	\$5,782,882	7.2%
Vanguard Target Retirement 2030	VTHRX	\$2,720,402	3.4%
Vanguard Target Retirement 2035	VTTHX	\$4,255,332	5.3%
Vanguard Target Retirement 2040	VFORX	\$1,176,046	1.5%
Vanguard Target Retirement 2045	VTIVX	\$2,084,806	2.6%
Vanguard Target Retirement 2050	VFIFX	\$603,166	0.8%
Vanguard Target Retirement 2055	VFFVX	\$466,170	0.6%
Vanguard Target Retirement 2060	VTTSX	\$61,629	0.1%
Vanguard Target Retirement 2065	VLXVX	\$226,194	0.3%
	Total	\$24,128,208	30.2%

	Total	\$513,289	0.6%
Self-Directed Brokerage Account	-	\$513,289	0.6%
Miscellaneous	Ticker	Assets	%

TOTAL PLAN ASSETS \$79,861,363

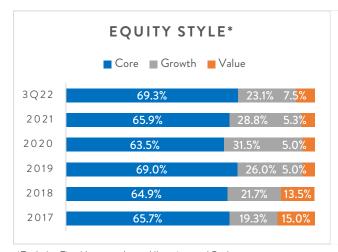
457(b) Deferred Compensation Plan

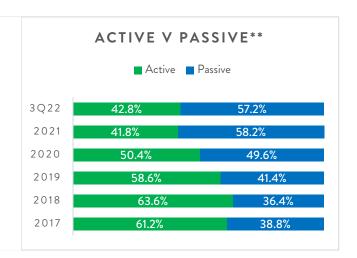
Third Quarter 2022



#### HISTORICAL PLAN ALLOCATION

Asset Class	3Q22	2021	2020	2019	2018	2017	2016	2015
Fixed Income	26.0%	22.3%	22.9%	22.4%	27.3%	26.9%	N/A	N/A
Large Cap	22.9%	26.1%	24.4%	24.4%	24.1%	24.7%	N/A	N/A
Mid Cap	14.3%	15.6%	17.3%	17.1%	15.7%	16.8%	N/A	N/A
International	5.9%	6.1%	5.8%	5.9%	5.8%	6.8%	N/A	N/A
Asset Allocation	30.2%	29.4%	29.1%	29.9%	26.8%	24.7%	N/A	N/A
SDBA	0.6%	0.6%	0.5%	0.3%	0.3%	0.1%	N/A	N/A





<sup>\*</sup>Excludes Fixed Income, Asset Allocation, and Brokerage assets

<sup>\*\*</sup>Excludes Asset Allocation and Loan assets

457(b) Deferred Compensation Plan

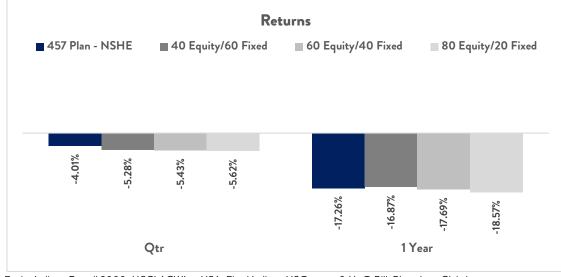
Third Quarter 2022

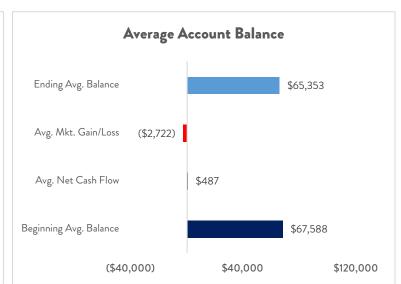
#### **PLAN LEVEL CASH FLOWS**

		Cash Flow	Cash Flow		Market	
	Beginning Value	(+)	(-)	Transfer	Gain/Loss	Ending Value
Fixed Income	\$21,270,371	\$256,160	(\$365,608)	(\$259,502)	(\$97,728)	\$20,803,692
Large Cap	\$18,896,707	\$319,136	(\$75,127)	\$36,164	(\$866,068)	\$18,310,813
Mid Cap	\$11,315,001	\$155,261	(\$35,972)	\$335,503	(\$356,579)	\$11,413,214
International	\$5,110,676	\$76,605	(\$28,661)	\$67,362	(\$533,835)	\$4,692,147
Asset Allocation	\$25,467,345	\$695,029	(\$397,890)	(\$183,190)	(\$1,453,085)	\$24,128,208
SDBA	\$532,740	\$0	\$0	\$0	(\$19,451)	\$513,289
Total	\$82,592,840	\$1,502,190	(\$903,258)	(\$3,662)	(\$3,326,747)	\$79,861,363

#### **HISTORICAL PLAN CASH FLOWS**

			Market	
	Beginning Value	Net Cash Flow	Gain/Loss	Ending Value
3Q22	\$82,592,840	\$595,270	(\$3,326,747)	\$79,861,363
YTD	\$99,514,917	\$614,238	(\$20,267,792)	\$79,861,363
2021	\$87,552,294	\$1,027,017	\$10,935,606	\$99,514,917
2020	\$71,011,498	\$4,420,058	\$12,120,738	\$87,552,294
2019	\$59,283,975	(\$281,661)	\$12,009,184	\$71,011,498
2018	\$60,761,575	\$1,182,723	(\$2,660,323)	\$59,283,975





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

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Third Quarter 2022

FICA Alternative OBRA Plan

#### HISTORICAL PLAN CASH FLOWS

Fixed Income	Ticker	Assets	%
Voya Fixed Account - FICA	-	\$56,967,459	100.0%
	Total	\$56,967,459	100.0%

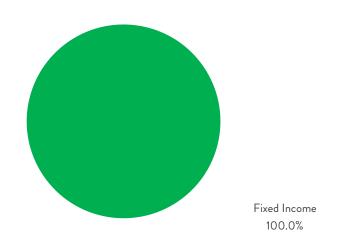
	Beginning Value	Net Cash Flow	Market Gain/Loss	Ending Value
3Q22	\$55,070,239	\$1,581,923	\$315,297	\$56,967,459
YTD	\$53,114,954	\$2,940,300	\$912,205	\$56,967,459
2021	\$48,389,052	\$3,600,343	\$1,125,559	\$53,114,954
2020	\$45,103,420	\$2,240,312	\$1,045,320	\$48,389,052
2019	\$40,981,957	\$3,480,620	\$640,843	\$45,103,420
2018	\$36,814,369	\$3,585,657	\$581,931	\$40,981,957

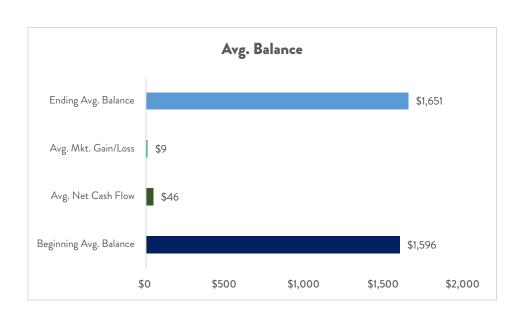
TOTAL PLAN ASSETS

\$56,967,459

Administrative Account Balance (10/18/22)

\$24,798





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Section 3

## INVESTMENT POLICY STATEMENT COMPLIANCE REPORT

**Combined Retirement Plans** Third Quarter 2022

	Investment Policy Status										
	Performance	Qualitative	On-Watch								
Key: 🕑 Pass / 🕑 Caution / • Fail	Factors	Factors	Information	Notes							
Voya Fixed Account	P	P	-								
Voya Fixed Account - FICA	P	P	-								
Vanguard Total Bond Market Index I	P	P	-								
Sterling Capital Total Return Bond R6	P	P	-								
145CV   D4											
MFS Value R4	P	P	-								
Vanguard Institutional Index Instl Plus	P	P	-	T.::!:							
				Trailing benchmark and Peer Group for 5-year period. Underperformance versus benchmark is largely driven by an underweight to Technology, an							
T. Rowe Price Growth Stock I	•	P	1Q22 (Performance)	overweight to Communications, and security selection in both Technology							
				and Consumer Cyclicals.							
Vanguard Mid-Cap Value Index Adm	P	P	-	und Consumer Cyclicus.							
Vanguard Extended Market Index Instl Plus	P	P	-								
Vanguard Mid-Cap Growth Index Adm	P	P	-								
Vanguard Total Intl Stock Index I	P	P	-	Replaced by CIT share class on October 7, 2022.							
American Funds EuroPacific Growth R6	P	P	-								
Vanguard Target Retirement Income	P	P	-	Replaced by CIT share class on October 7, 2022.							
Vanguard Target Retirement 2020	P	P	-	Replaced by CIT share class on October 7, 2022.							
Vanguard Target Retirement 2025	P	P	-	Replaced by CIT share class on October 7, 2022.							
Vanguard Target Retirement 2030	P	P	-	Replaced by CIT share class on October 7, 2022.							
Vanguard Target Retirement 2035	P	P	-	Replaced by CIT share class on October 7, 2022.							
Vanguard Target Retirement 2040	P	P	-	Replaced by CIT share class on October 7, 2022.							
Vanguard Target Retirement 2045	P	P	-	Replaced by CIT share class on October 7, 2022.							
Vanguard Target Retirement 2050	P	P	-	Replaced by CIT share class on October 7, 2022.							
Vanguard Target Retirement 2055	P	P	-	Replaced by CIT share class on October 7, 2022.							
Vanguard Target Retirement 2060	P	P	-	Replaced by CIT share class on October 7, 2022.							
				Trailing benchmark and Peer Group for 5-year period. Underperformance							
Vanguard Target Retirement 2065	•	P	-	versus benchmark is largely driven by tracking error. Replaced by CIT							
				share class on October 7, 2022.							

				Annualized								
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Voya Fixed Account	0.74	2.24	3.02	3.05	2.87			3.10	3.10	2.70	2.54	2.75
5 Yr Constant Maturity US Treasury Yield	0.80	1.99	2.29	1.26	1.72	1.59	1.72	0.85	0.54	1.96	2.75	1.91
+/- Index	(0.06)	0.25	0.73	1.79	1.15	-	-	2.25	2.56	0.74	(0.21)	0.84
US Stable Value	1	1	1	1	1	-	N/A	2	1	4	5	1
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Voya Fixed Account FICA	0.56	1.68	2.25	2.19	1.91			2.25	2.25	1.50	1.50	1.50
5 Yr Constant Maturity US Treasury Yield	0.80	1.99	2.29	1.26	1.72	1.59	1.72	0.85	0.54	1.96	2.75	1.91
+/- Index	(0.24)	(0.31)	(0.04)	0.93	0.19	-	-	1.40	1.71	(0.46)	(1.25)	(0.41)
US Stable Value	15	6	5	8	31	-	N/A	3	10	97	83	56
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Total Bond Market Index I	4.65	14.58	14.65	3.26	0.24	0.86	2.73	1.65	7.74	8.73	0.01	3.57
Bloomberg US Aggregate Bond Index	-4.75	-14.61	-14.60	-3.26	-0.27	0.89	2.74	-1.54	7.51	8.72	0.01	3.54
+/- Index	0.10	0.03	(0.05)	0.00	0.03	(0.03)	(0.01)	(0.11)	0.23	0.01	(0.02)	0.03
US Fund Intermediate Core Bond	39	36	32	52	37	47	N/A	55	54	34	27	38
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Sterling Capital Total Return Bond R6	4.42	14.50	14.72	2.54	0.29	1.46	3.45	1.12	9.35	9.37	0.27	4.33
Bloomberg US Aggregate Bond Index	-4.75	-14.61	-14.60	-3.26	-0.27	0.89	2.74	-1.54	7.51	8.72	0.01	3.54
+/- Index	0.33	0.11	(0.12)	0.72	0.56	0.57	0.71	0.42	1.84	0.65	(0.28)	0.79
US Fund Intermediate Core Bond	20	32	35	15	9	7	N/A	28	15	18	42	10
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
MFS Value R4	4.58	17.16	10.06	4.96	5.85	9.85	6.67	25.42	3.91	30.08	9.87	17.74
Russell 1000 Value Index	-5.62	-17.75	-11.36	4.36	5.29	9.17	5.71	25.16	2.80	26.54	-8.27	13.66
+/- Index	1.04	0.59	1.30	0.60	0.56	0.68	0.96	0.26	1.11	3.54	(1.60)	4.08
US Fund Large Value	20	58	57	55	45	21	N/A	59	37	7	68	31

				Annualized								
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Institutional Index Instl Plus	4.89	23.88	15.49	8.15	9.23	11.69	8.05	28.69	18.41	31.48	4.41	21.82
S&P 500 Index	-4.88	-23.87	-15.47	8.16	9.24	11.70	8.03	28.71	18.40	31.49	-4.38	21.83
+/- Index	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	0.02	(0.02)	0.01	0.00	(0.02)	(0.02)
US Fund Large Blend	44	46	36	20	15	11	N/A	21	32	22	22	32
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
T. Rowe Price Growth Stock I	3.29	38.69	35.76	3.60	6.83	11.48	8.40	20.18	37.09	30.98	0.89	33.84
Russell 1000 Growth Index	-3.60	-30.66	-22.59	10.67	12.17	13.70	10.10	27.60	38.49	36.39	-1.51	30.21
+/- Index	0.31	(8.03)	(13.17)	(7.07)	(5.34)	(2.22)	(1.70)	(7.42)	(1.40)	(5.41)	0.62	3.63
US Fund Large Growth	25	89	85	83	82	53	N/A	60	40	63	40	16
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Mid-Cap Value Index Adm	5.54	17.83	11.08	4.86	5.24	10.10	7.34	28.76	2.54	27.99	12.42	17.04
Vanguard US Mid Cap Value Index	-5.54	-17.80	-11.03	4.88	5.26	10.15	7.38	28.83	2.50	28.05	-12.42	17.12
+/- Index	0.00	(0.03)	(0.05)	(0.02)	(0.02)	(0.05)	(0.04)	(0.07)	0.04	(0.06)	0.00	(0.08)
US Fund Mid-Cap Value	61	47	52	48	32	9	N/A	47	52	42	36	15
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Extended Market Index Instl Plus	2.73	30.03	29.54	4.26	4.84	9.45	7.13	12.48	32.24	28.07	9.35	18.13
Vanguard Extended Market Index	-2.78	-30.09	-29.62	4.16	4.72	9.31	7.03	12.35	32.17	27.95	-9.57	18.11
+/- Index	0.05	0.06	0.08	0.10	0.12	0.14	0.10	0.13	0.07	0.12	0.22	0.02
US Fund Mid-Cap Blend	26	96	98	70	64	45	N/A	95	2	43	29	30
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Mid-Cap Growth Index Adm	2.58	32.67	27.45	5.44	7.68	10.52	7.39	20.48	34.48	33.86	5.60	21.83
Vanguard US Mid Cap Growth Index	-2.57	-32.67	-27.45	5.48	7.73	10.53	7.35	20.51	34.56	33.93	-5.57	21.92
+/- Index	(0.01)	0.00	0.00	(0.04)	(0.05)	(0.01)	0.04	(0.03)	(80.0)	(0.07)	(0.04)	(0.10)
US Fund Mid-Cap Growth	63	53	33	38	48	40	N/A	15	54	49	56	79

				Annualized								
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Total Intl Stock Index I	10.52	26.76	25.20	1.15	0.68	3.33	0.66	8.68	11.28	21.56	14.39	27.55
Vanguard Total International Stock Index	-9.66	-26.49	-25.20	-0.93	-0.50	3.41	0.73	8.84	11.24	21.81	-14.62	27.41
+/- Index	(0.86)	(0.27)	0.00	(0.22)	(0.18)	(80.0)	(0.07)	(0.16)	0.04	(0.25)	0.22	0.14
US Fund Foreign Large Blend	56	27	29	35	37	48	N/A	64	40	60	39	29
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
American Funds EuroPacific Growth R6	9.33	32.09	32.85	1.24	0.23	4.52	2.31	2.84	25.27	27.40	14.91	31.17
MSCI ACWI Ex-USA (Net) Index	-9.91	-26.50	-25.17	-1.52	-0.81	3.01	0.57	7.82	10.65	21.51	-14.20	27.19
+/- Index	0.58	(5.59)	(7.68)	0.28	0.58	1.51	1.74	(4.98)	14.61	5.89	(0.71)	3.98
US Fund Foreign Large Blend	19	93	98	37	22	10	N/A	95	2	10	47	6
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Target Retirement Income	4.64	15.89	14.19	0.02	1.96	3.31	3.89	5.25	10.02	13.16	1.99	8.47
Vanguard Retirement Income Index	-4.56	-15.77	-14.04	0.33	2.22	3.54	4.02	5.43	10.70	13.40	-1.98	8.67
+/- Index	(0.08)	(0.12)	(0.15)	(0.35)	(0.26)	(0.23)	(0.13)	(0.18)	(0.68)	(0.24)	(0.01)	(0.19)
US Fund Target-Date Retirement	51	45	44	25	24	29	N/A	64	30	48	18	50
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Target Retirement 2020	5.12	18.21	15.83	1.17	2.91	5.46	4.40	8.17	12.04	17.63	4.24	14.08
Vanguard Retirement 2020 Index	-4.93	-17.97	-15.53	1.62	3.26	5.74	4.60	8.43	12.86	17.87	-4.14	14.22
+/- Index	(0.19)	(0.24)	(0.30)	(0.45)	(0.35)	(0.28)	(0.20)	(0.26)	(0.82)	(0.24)	(0.10)	(0.14)
US Fund Target-Date 2020	48	40	36	39	26	21	N/A	62	41	32	47	23
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Target Retirement 2025	5.59	20.35	17.53	1.40	3.15	5.96	4.52	9.80	13.30	19.63	5.15	15.94
Vanguard Retirement 2025 Index	-5.32	-19.95	-17.09	1.97	3.58	6.29	4.77	10.10	14.19	19.93	-5.01	16.08
+/- Index	(0.27)	(0.40)	(0.44)	(0.57)	(0.43)	(0.33)	(0.25)	(0.30)	(0.89)	(0.30)	(0.14)	(0.14)
US Fund Target-Date 2025	59	62	61	38	27	21	N/A	47	34	20	48	22

				Annualized								
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Target Retirement 2030	5.93	21.60	18.42	1.82	3.43	6.46	4.65	11.38	14.10	21.07	5.86	17.52
Vanguard Retirement 2030 Index	-5.58	-21.16	-17.96	2.39	3.86	6.78	4.89	11.65	14.96	21.33	-5.74	17.65
+/- Index	(0.35)	(0.44)	(0.46)	(0.57)	(0.43)	(0.32)	(0.24)	(0.27)	(0.86)	(0.26)	(0.12)	(0.13)
US Fund Target-Date 2030	65	48	55	46	36	27	N/A	54	35	37	39	37
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Target Retirement 2035	6.09	22.40	18.87	2.39	3.78	6.99	4.90	12.96	14.79	22.44	6.58	19.12
Vanguard Retirement 2035 Index	-5.75	-22.00	-18.48	2.94	4.22	7.31	5.14	13.24	15.67	22.76	-6.48	19.24
+/- Index	(0.34)	(0.40)	(0.39)	(0.55)	(0.44)	(0.32)	(0.24)	(0.28)	(0.87)	(0.33)	(0.10)	(0.12)
US Fund Target-Date 2035	58	32	42	47	38	27	N/A	78	38	49	31	40
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Target Retirement 2040	6.33	23.27	19.42	2.91	4.11	7.40	5.19	14.56	15.47	23.86	7.32	20.71
Vanguard Retirement 2040 Index	-5.93	-22.86	-19.01	3.47	4.55	7.75	5.43	14.85	16.31	24.19	-7.22	20.87
+/- Index	(0.40)	(0.41)	(0.41)	(0.56)	(0.44)	(0.35)	(0.24)	(0.29)	(0.83)	(0.33)	(0.11)	(0.16)
US Fund Target-Date 2040	57	27	32	43	35	21	N/A	80	39	49	35	30
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Target Retirement 2045	6.51	24.10	19.93	3.46	4.42	7.61	5.32	16.16	16.30	24.94	7.90	21.42
Vanguard Retirement 2045 Index	-6.11	-23.70	-19.54	3.99	4.85	7.96	5.56	16.45	17.03	25.36	-7.77	21.54
+/- Index	(0.40)	(0.40)	(0.39)	(0.53)	(0.43)	(0.35)	(0.24)	(0.29)	(0.73)	(0.42)	(0.13)	(0.11)
US Fund Target-Date 2045	58	28	36	28	23	18	N/A	65	34	40	41	24
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Target Retirement 2050	6.64	24.43	20.18	3.41	4.39	7.60	5.31	16.41	16.39	24.98	7.90	21.39
Vanguard Retirement 2050 Index	-6.21	-24.05	-19.81	3.97	4.84	7.95	5.56	16.77	17.18	25.36	-7.77	21.54
+/- Index	(0.43)	(0.38)	(0.37)	(0.56)	(0.45)	(0.35)	(0.25)	(0.36)	(0.79)	(0.38)	(0.13)	(0.14)
US Fund Target-Date 2050	59	27	37	30	25	20	N/A	70	35	45	37	31

#### **STATE OF NEVADA**

#### **Combined Retirement Plans**

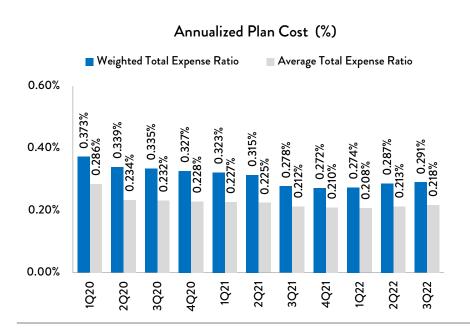
				-	Annualize	d						
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Target Retirement 2055	6.63	24.44	20.17	3.40	4.38	7.58		16.44	16.32	24.98	7.89	21.38
Vanguard Retirement 2055 Index	-6.21	-24.05	-19.81	3.97	4.84	7.95	-	16.77	17.18	25.36	-7.77	21.54
+/- Index	(0.42)	(0.39)	(0.36)	(0.57)	(0.46)	(0.37)	-	(0.33)	(0.86)	(0.38)	(0.12)	(0.16)
US Fund Target-Date 2055	59	27	37	33	28	28	N/A	75	40	47	35	39
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Target Retirement 2060	6.64	24.44	20.16	3.40	4.38	7.58		16.44	16.32	24.96	7.87	21.36
Vanguard Retirement 2060 Index	-6.21	-24.05	-19.81	3.97	4.84	7.95	-	16.77	17.18	25.36	-7.77	21.54
+/- Index	(0.43)	(0.39)	(0.35)	(0.57)	(0.46)	(0.37)	-	(0.33)	(0.85)	(0.40)	(0.10)	(0.18)
US Fund Target-Date 2060	61	24	35	36	30	50	N/A	77	41	56	30	43
	QTR	YTD	1Yr	3Yr	5Yr	10Yr	15Yr	2021	2020	2019	2018	2017
Vanguard Target Retirement 2065	6.60	24.38	20.10	3.38	4.36			16.46	16.17	24.96	7.95	
Vanguard Retirement 2065 Index	-6.21	-24.05	-19.81	3.97	4.84	-	-	16.77	17.18	25.36	-7.77	-
+/- Index	(0.39)	(0.33)	(0.29)	(0.59)	(0.48)	-	-	(0.31)	(1.00)	(0.39)	(0.18)	-
US Fund Target-Date 2065+	52	22	24	46	60	-	N/A	67	56	59	12	-

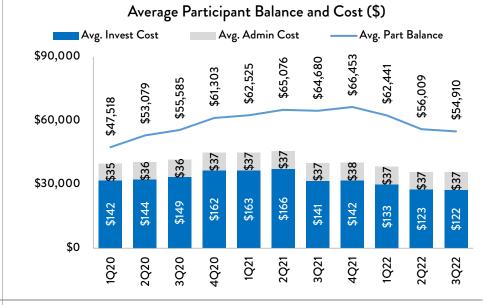
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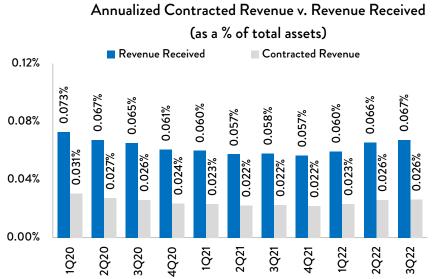
Section 4

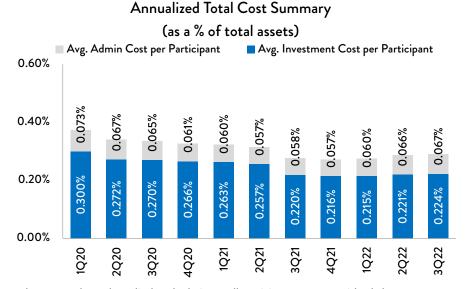
Combined 457(b) DC Plans

Third Quarter 2022









<sup>\*</sup>Administration costs are only charged to accounts with balances over \$1,000. For reporting purposes the total amounts charged are displayed relative to all participant accounts with a balance.

Combined 457(b) DC Plans

Third Quarter 2022

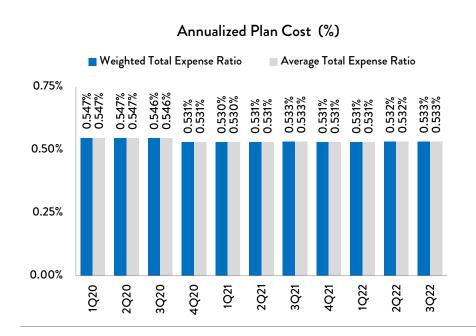
Annualized

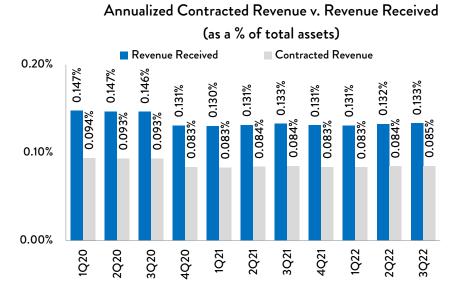
		Quarter End			Est. Total Invest.	Est. Total Admin.
Fund	Ticker	Balance	Net Expense Ratio	Admin Fee	Cost	Cost
Voya Fixed Account	-	\$346,352,534	0.40%	0.07%	\$1,385,410	\$232,961
Vanguard Total Bond Market Index I	VBTIX	\$32,839,572	0.04%	0.07%	\$11,494	\$22,088
Sterling Capital Total Return Bond R6	STRDX	\$1,574,360	0.35%	0.07%	\$5,510	\$1,059
MFS Value R4*	MEIJX	\$19,043,126	0.40%	0.07%	\$76,173	\$12,809
Vanguard Institutional Index Instl Plus	VIIIX	\$115,116,246	0.02%	0.07%	\$23,023	\$77,429
T. Rowe Price Growth Stock I	PRUFX	\$53,283,892	0.51%	0.07%	\$271,748	\$35,839
Vanguard Mid-Cap Value Index Adm	VMVAX	\$6,897,596	0.07%	0.07%	\$4,828	\$4,639
Vanguard Extended Market Index Instl Plus	VEMPX	\$86,387,377	0.04%	0.07%	\$34,555	\$58,105
Vanguard Mid-Cap Growth Index Adm	VMGMX	\$17,859,557	0.07%	0.07%	\$12,502	\$12,013
Vanguard Total Intl Stock Index I	VTSNX	\$33,686,282	0.08%	0.07%	\$26,949	\$22,658
American Funds EuroPacific Growth R6	RERGX	\$5,572,137	0.46%	0.07%	\$25,632	\$3,748
Vanguard Target Retirement Income	VTINX	\$39,033,584	0.08%	0.07%	\$31,227	\$26,255
Vanguard Target Retirement 2020	VTWNX	\$10,828,047	0.08%	0.07%	\$8,662	\$7,283
Vanguard Target Retirement 2025	VTTVX	\$38,795,976	0.08%	0.07%	\$31,037	\$26,095
Vanguard Target Retirement 2030	VTHRX	\$12,722,906	0.08%	0.07%	\$10,178	\$8,558
Vanguard Target Retirement 2035	VTTHX	\$44,636,567	0.08%	0.07%	\$35,709	\$30,023
Vanguard Target Retirement 2040	VFORX	\$6,881,989	0.08%	0.07%	\$5,506	\$4,629
Vanguard Target Retirement 2045	VTIVX	\$21,762,198	0.08%	0.07%	\$17,410	\$14,638
Vanguard Target Retirement 2050	VFIFX	\$4,469,952	0.08%	0.07%	\$3,576	\$3,007
Vanguard Target Retirement 2055	VFFVX	\$6,202,341	0.08%	0.07%	\$4,962	\$4,172
Vanguard Target Retirement 2060	VTTSX	\$1,654,404	0.08%	0.07%	\$1,324	\$1,113
Vanguard Target Retirement 2065	VLXVX	\$1,367,738	0.08%	0.07%	\$1,094	\$920
Self-Directed Brokerage Account	-	\$7,009,668	-	0.07%	-	\$4,715
TOTAL		\$913,978,050			\$2,028,508	\$614,754

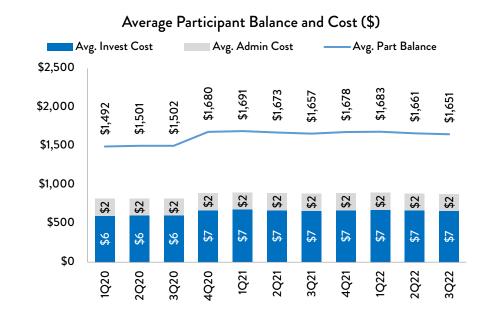
Plan Administration Cost	Quarter	Annualized
Plan Generated Revenue (\$41.00 per ppt with >\$1,000 bal) (est):	\$153,689	\$614,754
Contracted Revenue (\$14.50 per participant) (est):	\$60,338	\$241,353
Net Excess/(Deficit) (est):	\$93,350	\$373,402

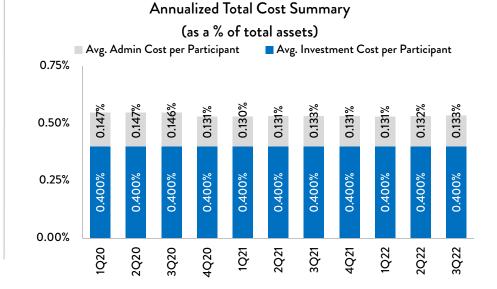
<sup>\*</sup>Revenue derived from funds credited to participant accounts in which they are held. For fee reporting purposes, the credit has been used to offset the reported fund expense ratio. An expense ratio of 0.40% was assumed for the Voya Fixed Account.

FICA Alternative OBRA Plan









#### **STATE OF NEVADA**

#### FICA Alternative OBRA Plan

#### **PLAN FEE ANALYSIS**

Third Quarter 2022

#### Annualized

Fund	Ticker	Quarter End Balance	Net Expense Ratio	Admin Fee
Voya Fixed Account - FICA	-	\$56,967,459	0.40%	0.13%
TOTAL		\$56,967,459		

Est. Total Invest.	Est. Total Admin.
Cost	Cost
\$227,870	\$75,926
\$227,870	\$75,926

Plan Administration Cost	Quarter	Annualized
Plan Generated Revenue (\$2.20 per participant) (est):	\$18,982	\$75,926
Contracted Revenue (\$1.40 per participant) (est):	\$12,079	\$48,317
Net Excess/(Deficit) (est):	\$6,902	\$27,610

An expense ratio of 0.40% was assumed for the Voya Fixed Account.

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Section 5

## **Growth R6 (USD) American Funds Europacific**

2020

-22.43

22.77

9.66

19.95 -1.13

25.27

2.84

-0.43

6.97

-12.24 -14.65

-9.33 -2.35

-32.09

Quarterly Returns

1st Otr

2nd Otr

3rd Qtr

4th Otr

Total %

91

92

88

89

83

97

95

Investment Style

90

Performance 09-30-2022

2021

Morningstar Analyst Rating™ Overall Morningstar Rating™ Standard Index

★★★

WSCI ACWI Ex 07-29-2022

Growth 390 US Fund Foreign Large

92 92 92

USA NR USD

Category Index MSCI ACWI Ex USD **USA Growth NR** 

Growth US Fund Foreign Large Morningstar Cat

88 :- 20k : 60k 80k 100k 0, 4 Equity Stocks % Growth of \$10,000 Category Average 14,392 12,809 American Funds Europacific Growth R6 Standard Index

4 Performance Quartile (within category)

09-22 History NAV/Pric

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.

30-day SEC Yield 09-30-22

0.78

0.78

0.90 0.40 7-day Yield

Performance Disclosure

No. in Cat

449

390 55

350

223

2012

2013

2014

2015

2016

2017

2018

2019

2020

2021

Subsidized

Unsubsidized

35.13 -13.31 2011 +/- Cat Index +/- Std Index

-2.63 -7.69

-0.41

0.57 1.52

0.28 0.14

0.58

Std 09-30-2022 Load-adj Mthly

Trailing Returns

1

3 Υ

5Yr

10 Yr

-1.24

Total Return

-32.85 -32.85 -32.85

-1.24

-0.23

-0.23 -0.23

4.52 4.52 4.52

6.36 6.36 Incept 6.36

								31.34%		Potential Cap Gains Exp
	1.3	les	Utilities					2.35%		12-Month Yield
	15.1	hcare	- Healthcare	0.93		41.9	Greater Asia	95.5/	94.4/	n-oqualeu
		Consumer Defensive	Consu	1.00		43.4	Greater Europe	OF 7	04.47	Bela
	23.6	ISIVE	→ Delelisive	1.26		14.7	Americas	1 11	1 06	Dotto:
		C C C C C	- : -	Rel Std Index	Rel	Stocks %	Regional Exposure	NR USD 0.67	0 83	Alnha
	15.8	Technology						xUS Growth TME		
	13.0	trials	industrials				R	Morningstar Gbl		
	9.9	₹	Energy				Below B	Best Fit Index	Standard Index	MPT Statistics
		Communication Services	<b>■</b> Comn	1			₿			0.000
	41.6	itive	√ Sensitive				BB			Sharne Ratio
	0.7	וופמו באנמנט	E				BBB			Mean
				1			Α	17.79 14.61	20.21 17	Standard Deviation
		Financial Services	Finan				> 4	5 Yr 10 Yr	3 Yr	
	<u>8</u>	Consumer Cyclical	Consu				> 1 > 1	Say,		- Wilding South Control
	8.0	Basic Materials	Basic	Bond %			AAA			Morningstar Return
	34.6	cal	∿ Cyclical	-		-				Morningstar Risk
Rel Std Index	Stocks %	ightings	Sector Weightings				MO			Morningstar Rating™
	Fortescue Metals Group Ltd	II/ MII F	•	1		Avg Wtd Price	pay pay	5 Yr 10 Yr funds 223 funds	3 Yr 5 Yr 390 funds 350 funds	
	Kweichow Moutai Co Ltd Class A		•			Avg Wtd Coupon	ų ųl			<b>Risk and Return Profile</b>
			•			Avg Eff Duration	žiH	0.46		Gross Expense Ratio %
	Nestle SA		1			Ava Eff Maturity	id-Incom	0.46		Net Expense Ratio %
	Recruit Holdings Co Ltd	57 mil R	•				2	NA		12b1 Expense %
	NOUR IVIANIINURA BANK ELU	00 1111	Œ			\$mil	llem	0.41		Management Fees %
						àp	PIS P			Fund Expenses
	Airbus SE			6 0.86	11.1 1.39 2.6 1.76	P/C Ratio TTM	ili əğ	NA		Deferred Load %
	Canadian Natural Resources Ltd	49 mil C	1			P/E Ratio TTM	ĵιεη	¥ ¥		Front-End Load %
	Taiwan Semiconductor Manufacturing	178 mil T	①			Portiolio Statistics	Value Blend Growth	<u> </u>		Sales Charges
	Daiichi Sankyo Co Ltd	95 mil D	1				2			Fees and Expenses
	ASML Holding NV		1	0.00	100.00	100.00	Total			www.americanfunds.com.
	LVMH Moet Hennessy Louis Vuitton SE		•	0.00	0.39	0.39	Other/Not Clsfd		1-4225 or visit	month-end, please call 800-421-4225 or visit
			•	0.00	0.00	0.00	Bonds	most recent	e data current to the	quoted herein. For performance data current to the most recent
	Reliance Industries Ltd	130 mil R		0.00	86.19	86.19	Non-US Stocks	return data	wer or higher than	Current performance may be lower or higher than return data
	29% Turnover Ratio		7707-90	0.00	2.18	2.18	US Stocks			their original cost.
	361 Total Stocks , 0 Total Fixed-Income,		since	0.00	11.24	11.24	Cash	s an investors re or less than	nt will rluctuate; inc d. mav be worth mo	shares, when sold or redeemed, may be worth more or less than
Net Assets	Holdings:	Share H	Share Chg	Short %	long %	Net %	Asset Allocation %	return and	ilts. The investment	does not guarantee tuture results. The investment return and
						<b>s</b> 09-30-2022	Portfolio Analysis 09-30-2022	ormance and	represents past per	The performance data quoted represents past performance and
							-			In approach, moningering

39

12-Month Yield Potential Cap Gains Exp	s Exp	2.35% 31.34%	district Data		Utilities
Operations					
Family:	American Funds		Ticker:	RERGX	Purchase Constraints:
Manager:	Multiple		ISIN:	US2987068218	Incept:
Tenure:	21.3 Years		Minimum Initial Purchase:	\$250	Type:
Objective:	Foreign Stock		Min Auto Investment Plan:	\$250	Total Assets:
Base Currency:	USD		Minimum IRA Purchase:	\$25	
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05-01-2009

\$122,339.68 mil

# MFS Value R4 (USD)

Morningstar Analyst Rating™ Overall Morningstar Rating™

★★★

08-04-2022

1,153 US Fund Large Value Standard Index S&P 500 TR USD

> Russell 1000 Value TR USD Category Index

US Fund Large Value Morningstar Cat

Performance U9-3U-2U22	-30-2022				
Quarterly Returns	1st Otr	2nd Otr	3rd Qtr	4th Otr	Total %
2020	-23.77	14.30	5.93	12.57	3.91
2021	8.66	5.63	0.65	8.57	25.42
2022	-3.64	-9.91	-4.58		-17.16
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-10.06	4.96	5.85	9.85	7.78
Std 09-30-2022	-10.06	1	5.85	9.85	7.78
Total Return	-10.06	4.96	5.85	9.85	7.78
+/- Std Index	5.41	-3.20	-3.39	-1.85	1
+/- Cat Index	1.31	0.60	0.56	0.68	
% Rank Cat	57	56	50	25	
No. in Cat	1215	1153	1094	800	

30-day SEC Yield 09-30-22 Performance Disclosure 7-day Yield Subsidized 1.81 Unsubsidized 1.80

22.3 0.0 -2.0

20:

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year

-0.3

125

(if applicable) Morningstar metrics.

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. does not guarantee future results. The investment return and The performance data quoted represents past performance and

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call 800-225-2606 or visit

0.44 NA <b>0.55</b>	Management Fees % 12b1 Expense % Net Expense Ratio % Gross Expense Ratio %
	Fund Expenses
NA	Deferred Load %
NA	Front-End Load %
	Sales Charges
	Fees and Expenses
	http://www.mfs.com.

Fees and Expenses			
Sales Charges			
Front-End Load %			NA
Deferred Load %			N
Fund Expenses			
Management Fees %			0.44
12b1 Expense %			NA
Net Expense Ratio %			0.55
Gross Expense Ratio %			0.55
Risk and Return Profile			
		5Yr	10 Yr
Morningstar Rating™	3+3: +3:	2.007. 1007. 1007. 1007.	A+
Morningstar Risk	-Δνα	-Avn	-Avn
Morningstar Return	Avg	Avg	+Avg
	3 Yr	5 Yr	10 Yr
Standard Deviation	18.95	17.13	13.99
Mean	4.96	5.85	9.85
Sharpe Ratio	0.32	0.35	0.69
MPT Statistics	Standard Index	Be Morning Brd	Best Fit Index Morningstar US LM Brd Val TR USD
Alpha	-2.25		-0.78
Beta	0.89		0.95
R-Squared	90.87		98.35
12-Month Yield			1.90%
Potential Cap Gains Exp			51.24%
Outside			

55 4	38	3 1	<b>₹</b>
29 1208	25.35 16.42 0.41 -1.09	2012	88 🖽
1213	33.20 35.81 3.42 3.28	2013	99 🎞
51 1290	34.94 10.57 -3.12 -2.89	2014	99
1378	32.79 -0.54 -1.92 3.29		99 🖽
52 1268	36.05 14.14 2.18 -3.20		8 🖽
30 1260	40.56 17.74 -4.09 4.08		99
1244	35.30 -9.87 -5.49 -1.60		8 🖽
1209	44.42 30.08 -1.40 3.54		98
39 1200	44.83 3.91 -14.49 1.11		<b>∭</b> 8 ⊞
58 1207		2021	8 🖽
1235	44.38 -17.16 6.71 0.60		<b>333</b>
% Hank Cat No. of Funds in Cat	NAV/Price Total Return % +/- Standard Index +/- Category Index	Performance Quartile (within category) History	Investment Style Equity Stocks % Stocks % Growth of \$10,000  **MFS Value R4 29,591 Category Average 25,801 Standard Index 35,961 ***10k

Ltd Mod En	Total  Value Blend Graven  Illems pays educt	Cash US Stocks Non-US Stocks Bonds Other/Not Clsfd
Avg Eff Maturity Avg Eff Duration Avg Wtd Coupon Avg Wtd Price	Portfolio Statistics P/E Ratio TTM P/C Ratio TTM P/B Ratio TTM P/B Ratio TTM Geo Avg Mkt Cap Smil	Net % 0.79 91.58 7.63 0.00 0.00
	100.00  Port Rel Avg Index 16.1 0.89 12.8 0.94 2.8 0.81 84522 0.51	Long % S 0.79 91.58 7.63 0.00 0.00
	0.00 Rel Cat 1.27 1.31 1.30 0.89	Short % 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0
$0 0 0 \oplus 0$		Share Chg since 08-2022
7 mil 11 mil 12 mil 2 mil 37 mil	5 mil 5 mil 9 mil 29 mil 11 mil 8 mil 6 mil	Share Amount 11 mil 17 mil 3 mil
7 mil Honeywell International Inc 11 mil ConocoPhillips 12 mil Duke Energy Corp 2 mil Thermo Fisher Scientific Inc 37 mil Comcast Corp Class A	Cigna Corp Aon PLC Class A  Texas Instruments Inc Pfizer Inc Progressive Corp Marsh & McLennan Companies Inc Chubb Ltd	Holdings: 72 Total Stocks , 0 Total Fixed-Income, 8% Turnover Ratio Johnson & Johnson JPMorgan Chase & Co Northrop Grumman Corp
2.18 2.10 2.09 2.04 2.02	2.86 2.53 2.48 2.38 2.35 2.35 2.20	Net Assets % 3.35 3.34 2.95

	Sector Weightings	Stocks %	Rel Std Index
	<b>ე</b> Cyclical	33.6	1.13
Bond %	Basic Materials	4.0	1.80
	Consumer Cyclical	3.1	0.2
	Financial Services	25.8	1.9
ı	Real Estate	0.7	0.24
	₩ Sensitive	33.2	0.7
1	☐ Communication Services	3.0	0.37
	<b>▲</b> Energy	4.6	1.00
	ndustrials	18.3	2.20
Rol Ctd Index	Technology	7.2	0.30
U OV	→ Defensive	33.2	1.3(
7 09	Consumer Defensive	7.1	0.97
0.00	◆ Healthcare	19.2	1.27
0.00	Utilities	6.9	2.24

MFS	Base Currency:	USD	Purchase Constraints:	Þ
Multiple	Ticker:	MEIJX	Incept:	04-01-2005
16.4 Years	ISIN:	US55273H6356	Туре:	MF
Growth	Minimum Initial Purchase:	\$0	Total Assets:	\$56,483.67 mil

Objective: Manager:

Tenure:

Family:

Operations

Greater Europe Greater Asia

92.9 7.1 0.0

Americas Regional Exposure Below B

묾

88 88

₽₿

Credit Quality Breakdown

2020	Quarterly Returns	0	<b>Performance</b> 09-30-2022		Bond		Starling Canital Total Raturn Morningstar Quantitative	nelease date 03
0.73 5.10 1.59	ist utr zna utr 3ra utr 4th utr iotal %		)9-30-2022		Bond R6 (USD		n Cani	neiedse date 03-30-2022   Note: Foi doits of the alidiysts die based on pre-inception reduits. Fledse read disclosure foi more information
0 1.50	ir 3rd Ut			٠	Ξ	- 2	<u></u>	טו נוטווצ ט
1.67	r 4th Ut						בלט מל	I LIE GIIG
7 9.35	r lotal %	T-1-10					D D	lysis die D
	94	E					† 	dsed on bi
-	97	E		09-30-202	Neutral <sup>a</sup>	Rating	Morni	a-IIIcepu
Ī	96	E		2022	an o	M	ngstar (	JIIIeiuii
	9	E					<b>Luantitat</b>	s. riedse
	7 97 !	E						iedu uisc
	8	E		Core Bond	401 US Fund Intermediate	***	Overall Morningstar Rating <sup>TM</sup> Standard Index	insure in
	97	E		р	und Inte		Morning	1101611
	98	E			rmediate		star Rat	IOITIALIOI
-	96	E			D D	В	ing™ S	
-	96	E			gg Bond	loomber	tandard	
-	97	E			TR USD	Bloomberg US	Index	
100k		Fixed-Income			Agg Bond TR USD Bond TR USD Core Bond	Bloomberg US Agg	င္မ	
	- 6	rcome	Investment Style		Core Bond	oomberg US Agg US Fund Intermediate	tegory Index Morningstar Cat	

Performance 09-30-2022	-30-2022				
Quarterly Returns	1st Otr	2nd Otr	3rd Qtr	4th Otr	Total %
2020	0.73	5.10	1.59	1.67	9.35
2021	-3.00	2.16	0.04	-0.26	-1.12
2022	-6.15	-4.69	-4.42		-14.50
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-14.72	-2.54		1	0.41
Std 09-30-2022	-14.72	1			0.41
Total Return	-14.72	-2.54	0.29	1.46	0.41
+/- Std Index	-0.12	0.71	0.56	0.57	1
+/- Cat Index	-0.12	0.71	0.56	0.57	
% Rank Cat	42	5	9	9	
No. in Cat	445	401	363	269	
		,		:	

1. Contractual waiver; Expires 01-31-2023 30-day SEC Yield 09-30-22 7-day Yield 10-24-22 Subsidized 3.16 3.64 Unsubsidized

3.56

201

2017 2018 10.22 -0.28

2019

2021

4

Performance Quartile (within category)

0.79 4.33 0.79

1.84 1.84 9.35

+/- Category Index +/- Standard Index Total Return %

-0.27

10.87 -1.12 0.42 0.42

-14.50 0.11

10.82 9.37 0.65

> 11.35 2020

9.11

NAV/Price History

Performance Disclosure

principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than (if applicable) Morningstar metrics. their original cost. does not guarantee future results. The investment return and The performance data quoted represents past performance and The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year

quoted herein. For performance data current to the most recent Current performance may be lower or higher than return data

month-end, please call 800-228-1872 or visit

Fixed-Income Style	
	Management Fees % 0.25
llsm2	Fund Expenses
biM	Deferred Load % NA
9file:	Front-End Load % NA
Value Blend Growth	Sales Charges
Equity Style	Fees and Expenses
	www.sterlingcapitalfunds.com.
Total	month-end, please call 800-228-1872 or visit

2.83%			12-Month Yield
96.21	17	89.47	R-Squared
0.99	æ	0.98	Beta
0.56	æ	0.68	Alpha
Bloomberg US Universal TR USD	Unive		
Best Fit Index		Standard Index	MPT Statistics
0.21	-0.16	-0.54	Sharpe Ratio
1.46	0.29	-2.54	Mean
3.94	4.85	5.57	Standard Deviation
10 Yr	5Yr	3 Yr	
High	High	+Avg	Morningstar Return
Avg	Avg	Avg	Morningstar Risk
5☆	5☆	4★	Morningstar Rating™
10 Yr 269 funds	5 Yr 363 funds	3 Yr 401 funds	
			Risk and Return Profile
0.46			Gross Expense Ratio %
0.35			Net Expense Ratio %
0.00			12b1 Expense %
0.25			Management Fees %
			Fund Expenses
NA			Deferred Load %
N			Front-End Load %
			Sales Charges

B BB

₽₿

Below B NR

-1.11 -1.11	6.73	2011			q	2		=	3	on pre
1.93 1.93	6.14	2012			9/	97	<b>Neutral a</b> 09-30-2022	Rating	Morningstar	on pre-inception returns.
1.05 1.05	-0.97	2013			9	96	022	, =		n returns
0.03 0.03	5.99	2014			9/	97			Quantitative	Please
-0.01 -0.01	0.54	2015			9/	97			-	read disc
1.10 1.10	3.75	2016			9	R I	401 US I Core Bor	***	0verall	disclosure to

· 20k

Category Average 12,184 Standard Index 12,254

흦

60 × 100 100 × 100

Growth of \$10,000

4

Sterling Capital 1 Bond R6 13,048

Total Return

Cash	Asset Allocation %	Portfolio Analysis 09-30-2022			-1.11	-1.11
	cation %	o Analy			-1.11 1.93	1.93
	•	sis 09-30			1.05	1.05
		)-2022	  -		0.03	0.03
O 55	Net %			1	0.03 -0.01 1.10	-0.01
5	Long %				1.10	1.10
0 8 9	Long % Short %				0.79	0.79
since	Shar				-0.28	-0.28
	e Chg		430	17	0.65	0.65
Amount	Share		415	<u></u>	1.84	1.84
0 Total Sto	Share Chg Share Holdings:		— 430 415 423 <i>'</i>	17 10 23 —	0.79 -0.28 0.65 1.84 0.42 0.11	-1.11 1.93 1.05 0.03 -0.01 1.10 0.79 -0.28 0.65 1.84 0.42 0.11
icks, 330 Tot			454		0.11	0.11
Amount 0 Total Stocks , 330 Total Fixed-Income,			No. of Funds in Cat	% Rank Cat	+/- Category Index	+/- Standard Index
%	Net Assets					

Asset Allocation % Cash US Stocks Non-US Stocks Bonds Other/Not Clsfd Total  Portfolio Ste	Net % 0.65 0.00 0.00 97.43 1.92 100.00 Portfolio Statistics	Long % 1 1.51 0.00 0.00 97.43 1.92 100.86 Port Rel Ava Index	0.86 0.00 0.00 0.00 0.00 0.00	Share Chg Share since Amount 08-2022 93 mil    ① 29 mil  21 mil   16 mil	re Holdings: nt O Total Stocks , 330 Total Fixed-Income, 49% Turnover Ratio United States Treasury Bonds 1.375% iil United States Treasury Bonds 2.5% iil United States Treasury Notes 2.625% iil United States Treasury Notes 1.5% iil ONEMAIN FINANCIAL ISSUANCE TRUST iil Fnma Pass-Thru I
Bonds Other/Not Clsfd Total	97.43 1.92 100.00	97.43 1.92 100.86	0.00		
Equity Style	Portfolio Statistics		5 E		
llem2 biM egreJ	P/C Ratio TTM P/B Ratio TTM Geo Avg Mkt Cap \$mil		1 1 1	15 mil 14 mil 16 mil	III AMERICREDIT AUTOMOBILE RECEIVABLES III Federated Hermes Treasury Obl IS III HERTZ VEHICLE FINANCING III LLC 1.
Fixed-Income Style	Avg Eff Maturity		8.55	~ ~	
b9M rlgiH	Avg Eff Duration Avg Wtd Coupon Avg Wtd Price		5.88 3.00 88.16	① ① ①	13 mil Federal National Mortgage Associat 11 mil Federal National Mortgage Associat
мод				Sector Weightings	s Stocks %
Credit Quality Breakdown 09-30-2022	<b>(down</b> 09-30-2022		Bond %	<b>% Cyclical</b> ■ Basic Materials	rials
> }			27.0	Consumer Cyclical	chical

STRDX US85918D6242 \$10 mil \$10 mil A			l	- 2	Stocks %								00-2022	20 2022	
		l		oa iido	Rel Std Index	0.00	0.02	0.00	0.06	12.84	14.13	9.70	63 25	0,0	
Incept: Type: Total Assets:	<b>▼</b> Utilities	<ul><li>Healthcare</li></ul>	Consumer Defensive	→ Defensive	Technology	ndustrials	<b>♦</b> Energy	Communication Services	₩ Sensitive	★ Real Estate	Financial Services	Consumer Cyclical	Basic Materials	Դ Cyclical	Sector Weightings
02-01-2018 MF \$982.23 mil	I	1	1	I	I		I	1	I	I	1	1	I	I	Stocks %
		1	1	I	I				1	I				1	Rel Std Index

Manager: Family:

Operations

Tenure:

14.8 Years Multiple

Sterling Capital Funds

ISIN:

Ticker:

Greater Asia Greater Europe Americas Regional Exposure

Growth and Income

Purchase Constraints: Min Auto Investment Plan: Minimum Initial Purchase:

Base Currency: Objective:

# (USD) Rowe Price Growth Stock Morningstar Analyst Rating Overall Morningstar Rating \*\* USD) Worningstar Analyst Rating Overall Morningstar Rating \*\* 1,142 US Fund Large Growth

S&P 500 TR USD

Standard Index

Category Index Russell 1000 Growth TR USD

US Fund Large Growth Morningstar Cat

Performance 09-30-2022	-30-2022					
Quarterly Returns	1st Otr	2nd Otr	3rd Qtr	4th Otr	Total %	
2020	-14.62	27.75	12.19	12.03	37.09	
2021	2.58	12.73	-0.80	4.77	20.18	
2022	-15.01	-25.40	-3.29		-38.69	
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept	
Load-adj Mthly	-35.76	3.60	6.83	1	8.99	
Std 09-30-2022	-35.76	1	6.83		8.99	
Total Return	-35.76	3.60	6.83	11.48	8.99	
+/- Std Index	-20.29	-4.56	-2.41	-0.22		
+/- Cat Index	-13.17	-7.07	-5.34	-2.22		
% Rank Cat	86	83	82	50		
No. in Cat	1252	1142	1060	790		
		,	-	:		

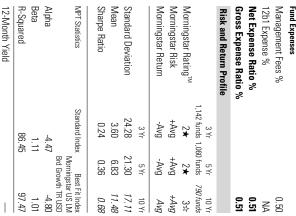
Performance Disclosure
The Overall Marningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year 30-day SEC Yield 7-day Yield 10-24-22 Subsidized 0.00 Unsubsidized

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. does not guarantee future results. The investment return and The performance data quoted represents past performance and

(if applicable) Morningstar metrics.

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.uoweprice.com.	
Fees and Expenses	
Sales Charges	
Front-End Load %	N
Deferred Load %	NA
Fund Expenses	
Management Fees %	0.50
12b1 Expense %	NA
Net Expense Ratio %	0.51
Gross Expense Ratio %	0.51



₽

Credit Quality Breakdown

11	-0.97 -3.08 -3.61	2011	8 🗔
1 1	18.92 2.91 3.66	2012	88 🖽
1 1	39.20 6.81 5.72	2013	88 🗔
1 1	8. 83 -4. 86 -4. 22	2014	97
1 1	53.69 10.93 9.55 5.27	2015	96
63 1463	53.28 1.58 -10.38 -5.50	2016	88 🖽
15 1363	62.70 33.84 12.01 3.63	2017	89 🗔
37 1405	57.15 -0.89 3.49 0.62	2018	8 🛄
1360	73.39 30.98 -0.51 -5.41	2019	100
38 1289	96.98 37.09 18.69 -1.40	2020	100
62 1237	106.34 20.18 -8.52 -7.42	2021	9 📗
1270	65.20 -38.69 -14.82 -8.03	09-22	99 1000k 80 k 60 k 20 k
% Rank Cat  No. of Funds in Cat	NAV/Price Total Return % +/- Standard Index +/- Category Index	Performance Quartile (within category) History	Investment Style Equity Stocks %  Growth of \$10,000  I. Rowe Price Growth Stock I 35,282 Category Average 32,044 Standard Index 35,961

Rel Std Index	Stocks %	Sector Weightings	s i			мор	
					Avg vvia Frice	pe	
1 73	Rose Stores Inc	o mil	n		A 14/4 D	W	
1.80	NVIDIA Corp	e mil	 ①		Ava Wtd Coupon	цбі	
1.89	ASML Holding NV ADR	e) 2 mil			Avg Eff Duration	Mod Ext	Ltd
1.91	Eli Lilly and Co	9 3 mil	 ( <del>+</del> )		Ava Eff Maturity	Fixed-Income Style	Fixed-
2.11	Mastercard Inc Class A	3 mil	(I)				
2.41	Visa Inc Class A	9 6 mil	- - - -	./ 0200	\$mil	llsm2	
2.42	Intuit Inc	3 mil	10.98		F/B haut I IVI	biN	
3.52	Tesla Inc	e mil		20.2 1.48	P/C Ratio I IM	ı əf	
3.58	Rivian Automotive Inc Class A	•) 46 mil			P/E Ratio TTM	ουεγ	
3.79	Alphabet Inc Class C	) 17 mil		Avg Index	i official official ca	Value Blend Growth	Value Blend (
			Rel	Port Re	Portfolio Statistics	Style	Fallity
3.90	UnitedHealth Group Inc	3 mil	_ `				
4.40	Alphabet Inc Class A	9 20 mil	0 00 (I)	100 00	100.00		Total
9.57	Apple Inc	9 29 mil	0.00 ⊕	0.00	0.00	Other/Not Clsfd	Other/
11.36	Amazon.com Inc	43 mil	0.00	0.00	0.00		Bonds
12.28	Microsoft Corp		0.00 +	5.51	5.51	Von-US Stocks	Non-U
1000	N. Tarros of Transco		U	93.80	93.80	ocks	US Stocks
%	69 Total Stocks, 0 Total Fixed-Income, 23%, Turnover Ratio	since Amount	0.00	0.69	0.69		Cash
Net Assets	Holdings:	Share Chg Share	Short % SI	Long %	Net %	Asset Allocation %	Asset /
					s 09-30-2022	Portfolio Analysis 09-30-2022	Portf

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including, but not limited to, Morningstar Research Services LLC, registered with and governed by the U.S. Securities and Exchange Commission. This report is supplemental sales literature. I fapplicable it must be preceded
as of the date written and are subject to change without notice. Inv
and (6) are not warranted to be correct, complete or accurate. Except as otherwise required by law, Morningstar shall not be responsible for any trading decisions, damages or other losses resulting from, or related to, this
lvice offered by Morningstar, (5) are provided solely for informational purposes and therefore are not an offer to buy or se
include, or be derived from, account information
Morningstar. All Rights Reserved. Unless oth

Objective:

Growth 8.8 Years

Minimum Initial Purchase:

\$500,000

Total Assets:

\$45,806.59 mil

Tenure:

Family:

T. Rowe Price

Ticker:

PRUFX US7414794062

Incept:

08-28-2015

Purchase Constraints:

Base Currency:

ISIN:

Potential Cap Gains Exp

61.32%

Greater Asia Greater Europe Americas Regional Exposure

Stocks %

94.5 4.5 1.0

묾 Below B 88 88

Manager:

## Index InstIPIus (USD) Vanguard Extended Market

**₩ Gold** 08-10-2022

Morningstar Analyst Rating™ Overall Morningstar Rating™ 532 US Fund Mid-Cap Growth

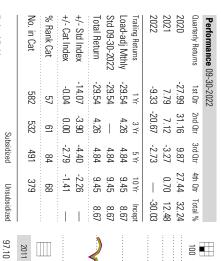
S&P 500 TR USD

Standard Index

Russell Mid Cap Growth TR USD Category Index

Growth US Fund Mid-Cap **Morningstar Cat** 

Extended Market



The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year 30-day SEC Yield 10-24-22 Performance Disclosure 7-day Yield 1.32 1.20

-1.92

-5.68 -3.57

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. does not guarantee future results. The investment return and The performance data quoted represents past performance and

(if applicable) Morningstar metrics.

month-end, please call 888-809-8102 or visit www.vanguard.cor	Current performance may be lower or higher than return data guoted herein. For performance data current to the most recent
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rees and Exhanses	
Sales Charges	
Front-End Load %	R
Deferred Load %	N N

Risk and Return Profile	Gross Expense Ratio %	Net Expense Ratio %	12b1 Expense %	Management Fees %	Fund Expenses	
	0.04	0.04	NA	0.04		

nisk dilu neturii Froille	3 ¥r	5 Yr	10 Yr
Morningstar Bating <sup>TM</sup>	532 funds 2 <b>→</b>	491 funds	379 funds
Morningstar Risk	+Avg	+Avg	+Avg
Morningstar Return	Avg	-Avg	-Avg
	3 Yr	5 Yr	10 Yr
Standard Deviation	26.28	23.00	18.35
Mean	4.26	4.84	9.45
Sharpe Ratio	0.27	0.27	0.55
MPT Statistics	Standard Index		Best Fit Index
		Morning: Brd Grt	Morningstar US Sml Brd Grt Ext TR USD
Alpha	-4.08	8	2.26
Beta	1.19	19	1.03
R-Squared	85.29	29	97.30
12-Month Yield			1.29%
Potential Cap Gains Exp			28.24%

BB BB

Below B

 $\frac{1}{8}$ 

Americas

Regional Exposure

Вe

Greater Asia Greater Europe

99.2 0.6 0.2

Credit Quality Breakdown – AAA

0.51 0.46 0.43 0.43 0.42

0.63 0.61 0.57 0.53

0.70

43

1.02 0.91 0.85 0.80 0.72

₽

		2.72	2.52	18.52	113.18	2012		10 ⊞
	1	2.69	6.04	38.43	154.84	2013		100 🖫
	ı	-4.30	-6.09	7.60	164.36	2014		10 🔐
	1	-3.03	-4.62	-3.23	156.89	2015		10 🖽
	1	8.85	4.22	16.18	179.47	2016		\$ ■
	1	-7.14	-3.70	18.13	209.16	2017		₩ 🖽
	ı	-4.60	-4.96	-9.35	186.80	2018		9 📊
	1	-7.40	-3.42	28.07	235.94	2019		9 🔐
	ı		13.84	32.24	307.84	2020		€ 🖫
588	អ	-0.25	-16.23	12.48	342.27	2021		97
597	1	1.42	-6.17	-30.03	237.95	09-22		9
								:: 100k :: 80k :: 60k :: 40k :: 20k :: 10k
No. of Funds in Cat	% Rank Cat	+/- Category Index	+/- Standard Index	Total Return %	NAV/Price	History	Performance Quartile (within category)	Investment Style Equity Stocks % Growth of \$10,000  Index InstIPlus 27,316 Category Average 26,886 Standard Index 35,961

Portfolio Analysis 09-30-2022	is 09-30-2022						
Asset Allocation %	Net %	Long % S	Short %	Share Chg	Share	Holdings:	Net A
Cash	2.68	2.68	0.00	since	Amount	3,657 Total Stocks , 0 Total Fixed-Income,	
US Stocks	96.22	96.22	0.00	7707-80	) <u>-</u>	19% Turnover Ratio	
Non-US Stocks	1.09	1.09	0.00	1	lim 6	Blackstone Inc	
Bonds	0.00	0.00	0.00	<b>①</b>	27 mil	Uber Technologies Inc	
Other/Not Clsfd	0.00	0.00	0.00	<b>①</b>	4 mil	Palo Alto Networks Inc	
Total	100 00	100 00	3	<b>①</b>	4 mil	Snowflake Inc Ordinary Shares - Cl	
2			-	<b>⊕</b>	3 mil	Cheniere Energy Inc	
Value Blend Growth	Portiolio Statistics	Avg Index	Cat	<b>⊕</b>	5 mil	Airbnb Inc Ordinary Shares - Class	
ùeη	P/E Ratio TTM		0.48	1	11 mil	Marvell Technology Inc	
a a a	P/C Ratio I IM	0.	0.56	1	3 mil	CrowdStrike Holdings Inc Class A	
biM	P/B Ratio I IM		0.50	1	2 mil	Lululemon Athletica Inc	
llsm2	\$mil	3203 0.03	0.00	①	3 mil	Workday Inc Class A	
				<b>①</b>	7 mil	Block Inc Class A	
Fixed-Income Style				D	6 mil	The Trade Desk Inc Class A	
Ltd Mod Ext	Avg Eff Maturity			D (	∞ <u>Β</u> .	KKB & Co Inc Ordinary Shares	
ИgiH	Avg Eff Duration			<b>①</b> (	2 mil	Alnylam Pharmaceuticals Inc	
pəM	Ava Wtd Price			①	2 mil	2 mil Veeva Systems Inc Class A	

<b>1</b> Utilities	6 74 Healthcare	0.60 Consumer Defensive	1.00 → Defensive	Technology	— industrials	Energy	— Gommunication Services	— vw Sensitive	Real Estate	Financial Services	Consumer Cyclical	Basic Materials	Bood % Cyclical	Sector Weightings
2.1	14.2	3.0	19.2	21.7	12.8	4.9	3.9	43.4	7.2	15.3	11.2	3.7	37.4	Stocks %
0.69	0.93	0.41	0.75	0.91	1.54	1.09	0.49	0.97	2.49	1.17	0.98	1.63	1.26	Hel Std Index

Growth	24.8 Years	Multiple	Vanguard
Minimum Initial Purchase	ISIN:	Ticker:	Base Currency:
9: \$100 mil	US9229083715	VEMPX	USD
Total Assets:	Туре:	Incept:	Purchase Constraints:
\$12,710.45 r	MF	01-14-2011	I

Objective:

Tenure:

Manager: Family:

<u>⊒</u>.

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# Vanguard Institutional Index ក្នុង Morningstar Analyst Rating™ Overall Morningstar Rating™ InstI PI (USD) Oz. 222-2022 1,237 US Fund Large Blend Instl PI (USD)

Standard Index

S&P 500 TR USD

USD Russell 1000 TR Category Index

US Fund Large Blend Morningstar Cat

History	09-22	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011		04	-		-	O COC
(Mittilli Category)														820	1118	1237	1366	No in Cat
Performance Quartile														=	19	22	41	% Rank Cat
	4 <sub>k</sub>											i		0.09	0.23	0.21	1.72	+/- Cat Index
														-0.01	-0.01	-0.01	-0.02	+/- Std Index
35.961	10k									-1		)	7.59	11.69	9.23	8.15	-15.49	Total Return
28,712							\$			/	)		7.59	11.69	9.23	I	-15.49	Std 09-30-2022
— Category Average	20k		<	}	}	$\!$			\				7.59	11.69	9.23	8.15	-15.49	Load-adj Mthly
35,931	3	1											Incept	10 Yr	5 Yr	3 Yr	1 Yr	Trailing Returns
Vanguard Institutional Index Inst! PI	\$ 40k												-23.88		-4.89	-16.11	-4.61	2022
Growth of \$10,000													28.69	11.02	0.57	8.54	6.18	2021
	100												18.41	12.15	8.93	20.55	-19.59	2020
Stocks %	100	100	100	100	100	100	100	100	100	100	100	100	Total %	4th Qtr	3rd Qtr	2nd Otr	1st Otr	Quarterly Returns
Investment Style		H															mance 09-30-2022	Performance

12-Month Yield Potential Cap Gains Exp	R-Squared	Beta	Alpha	- 0000000	MPT Statistics	Sharpe Ratio	Mean	Standard Deviation		Morningstar Return	Morningstar Risk	Morningstar Rating <sup>™</sup>		KISK and Keturn Profile	Disk and Datum Destile	Gross Exnense Ratio %	Net Expense Ratio %	12b1 Expense %	Management Fees %	Fund Expenses	Deterred Load %	Front-End Load %	Sales Charges	Fees and Expenses	month-end, please call 888-809	quoted herein. For performance	Current performance may be lower or higher than return data	their original cost.	principal value of an investmen	does not guarantee future results. The investment return and	The performance data quoted r
1.74% 68.18%	100.00 100.00	1.00 1.00	-0.01 -0.01	SS .	Standard Index Best Fit Index	0.45 0.51 0.79	8.15 9.23 11.69	18.07		+Avg +Avg +Avg	Avg Avg Avg		1,237 funds 1,118 funds 820 funds	n <-		0.82	0.02	NA	0.02		NA	NA.			month-end, please call 888-809-8102 or visit www.vanguard.com.	quoted herein. For performance data current to the most recent	wer or higher than return data	ין חומן אס איסותו חוסוס טו וססס תומוו	principal value of an investment will fluctuate; thus an investor's shares when sold or redeemed may be worth more or less than	Its. The investment return and	The performance data quoted represents past performance and
Americas Greater Europe Greater Asia				Below B	В		RRR		A }			мот	belM	ИвіН	Ltd Mod Ext	Fixed-Income Style		llen		biM	Гэцде	Value Blend Growth	Familia Ctub	Total	Other/Not Clsfd	Bonds	Non-US Stocks	US Stocks	Cash	Accet Allocation %	Dorfolio Analysis
99.0 1.0 0.0	Stocks %									lown —			Avg Wtd Price	Avg Wtd Coupon	Avg Eff Duration	A TEE Maturity		\$mil	àp		P/C Ratio TTM	CCS		100.00	0.00				0.44	Not of	00 30 2022
1.00 1.00	Rel Std Index		1	1	1	1	1	1		Bond %			1						1.00	1.00	13.6 1.00 0.98	Index	2	100.00 0.00	0.00 0.00	0.00 0.00	1.02 0.00	98.54 0.00	0.44 0.00		
Consumer Defensive Healthcare Utilities	→ Defensive	Technology	Industrials	_	Communication Services	∨ Sensitive	Real Estate	Financial Services	Consumer Cyclical	Basic Materials	Դո Cyclical	Sector Weightings	① 12 mil			① 21 mil	① 17 mi	(I	30 = 3	) (I	13 mil	① 39 mi	① 43 mil	⊕ 19 mil	⊕ 64 mil	① 54 mil	① 110 mi	08-2022	>	Share Cho Share	
efensive					ion Services			rvices	yclical	ials		St	l Visa Inc Class A			I JPMorgan Chase & Co	Meta Platforms Inc Class A	ו באאטוו ועוטטוו כטוף				_	I Alphabet Inc Class A	l Tesla Inc	Amazon.com Inc	Microsoft Corp		3% Turnover Ratio		e Holdings:	
7.3 15.2 3.1	25.6	23.8	8.3	4.6	8.1	44.8	2.9	13.1	11.4	2.2	29.6	ocks %									ass B	ı							icome,		
1.00 1.00 1.02	1.00	1.00	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	18	Rel Std Index	0.96	1.00	1.00	1.01	1.02	07.1	1 20	1.30	1.59	1.70	1.89	2.33	3.31	5.74	6.90		%	Net Assets	

Objective: Manager: Family:

Tenure:

21.8 Years Growth and Income

Multiple Vanguard

Ticker:

 $\leq$ OSU

Incept:

07-07-1997

Purchase Constraints:

Base Currency:

ISIN:

Minimum Initial Purchase:

\$100 mil

Total Assets:

\$219,663.16 mil

US9220402096

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.

30-day SEC Yield 10-24-22

1.77

Performance Disclosure

7-day Yield

Subsidized

Unsubsidized 1.58

115.05 2.12

16.00 0.00

13.68

11.95

130.53

169.28 32.37

188.68

186.63

203.84

243.48 21.82 -0.02 0.13 28 1402

227.57

290.25

331.48

405.80

303.58 -23.88

31.48

18.41

0.62 0.01

-0.42

0.44 -0.01

0.47 1.39 0.01

-0.10 -0.01

-0.02 0.38 -4.41

0.06 0.00

-2.56 0.01

-0.02 28.69 2.23 23

> -0.01 0.71

20

26 1396

25

23 1363

8

1686

1559 -0.75 -0.02 4

1568

1606

1409

1387

1382

1387

No. of Funds in Cat % Rank Cat +/- Category Index +/- Standard Index Total Return % NAV/Price

## Vanguard Mid-Cap Growth **Index Admiral (USD)**

**Sold** 01-28-2022

Morningstar Analyst Rating™ Overall Morningstar Rating™ 532 US Fund Mid-Cap Growth

S&P 500 TR USD

Standard Index

Russell Mid Cap Growth TR USD Category Index

US Fund Mid-Cap Growth Morningstar Cat

Performance 09-30-2022	-30-2022						_
Quarterly Returns	1st Otr	2nd Otr	3rd Qtr	4th Otr	Total %	100	_
2020	-20.05	30.58	9.26	17.90	34.48		- :
2021	1.25	10.25	0.16	7.76	20.48		1 1
2022	-12.32 -21.19	-21.19	-2.58		-32.67		1
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept		
Load-adj Mthly	-27.45	5.44	7.68	10.52	11.09		1
Std 09-30-2022	-27.45		7.68	10.52	11.09		
Total Return	-27.45	5.44	7.68	10.52	11.09	<b>)</b>	- 3
+/- Std Index	-11.98	-2.72	-1.56	-1.18			
+/- Cat Index	2.04	1.18	0.06	-0.33		:	- 1
% Rank Cat	42	43	44	40			_
No. in Cat	582	532	491	379		2011	_
		Sı	Subsidized	Unsı	Unsubsidized	25.66	22
7-day Yield			1			-3.68	-
			77		2		

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year 30-day SEC Yield 10-24-22 Performance Disclosure 7-day Yield 0.77 0.65

> -2.03 -5.79 -3.68

737

703

749

733

644

617 | 605 |

618

604

588

597

No. of Funds in Cat

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. does not guarantee future results. The investment return and The performance data quoted represents past performance and

(if applicable) Morningstar metrics.

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.yanguard.co

Front-End Load %	Sales Charges	Fees and Expenses	month-end, please can opo-opz-/44/ or visit www.vangdald.com
			7-144/ UI VISIL V
N N			vvvvv.variguaru.com

nisk dilu netulli riville			
	3 Υr	5Yr	10 Yı
	532 funds	491 funds	379 funds
Morningstar Rating™	3 <b>⊁</b>	3 <b>⊁</b>	3★
Morningstar Risk	Avg	Avg	Avg
Morningstar Return	Avg	Avg	Avg
	3 Yr	5Yr	10 Yı
Standard Deviation	24.28	21.21	16.83
Mean	5.44	7.68	10.52
Sharpe Ratio	0.31	0.40	0.64
MPT Statistics	Standard Index		Best Fit Index Morningstar US Mic
Alpha	-2.80		-0.64
Beta	1.12	12	1.04
R-Squared	87.78	78	99.26
12-Month Yield			0.77%
Potential Cap Gains Exp			33.06%

888

Credit Quality Breakdown

₽

Below B NR

Greater Asia Greater Europe

0.0 0.0 Americas Regional Exposure

Stocks % 100.0

					1						
% Rank Cat	I	19	44	42	46	65	40	51	5	83	30
+/- Category Index	-1.22	7.75	<u>-1</u> -1	-1.61	-0.85	-3.44	-0.58	-0.78	1.58	-3.52	0.15
+/- Standard Index	-8.81	-8.23	16.08	2.37	-1.22	0.00	-5.21	-2.36	-0.21	-0.17	-0.05
Total Return %	-32.67	20.48	34.48	33.86	-5.60	21.83	6.75	-0.98	13.48	32.22	15.96
NAV/Price	73.37	109.55	91.26	68.34	51.48	54.96	45.46	42.94	43.72	38.83	29.55
History	09-22	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Performance Quartile (within category)											
Investment Style Equity Stocks % Growth of \$10,000  Vanguard Mid-Cap Growth Index Admiral 29,743 Category Average 26,886 Standard Index 35,961	100 100 80k 60k 20k	100	100	100	100	100	100	100	99 🔐	100	100

							1		_
1.18	785,280 Albemarle Corp	785,280	①	1		Avg Wtd Price	bəM		
1.21	DexCom Inc	3 mil	1			Avg Wtd Coupon	чбіі		Π
1.22	ResMed Inc	981,693	1			Avg Eff Duration	EX.	Mod	Ltd
1.23	MSCI Inc	512,740	1			Ava Eff Maturity	Fixed-Income Style	ed-Inco	Ŧ
1.27	Cintas Corp	576,654	1				:	:	!
1.29	Microchip Technology Inc	4 mil	①		21001	\$mil	llsm2		
1.29	IQVIA Holdings Inc	1 mil	①		4.2 1.23 21601 0.13		biM		Г
1.33	Waste Connections Inc	2 mil	1			P/C Ratio TTM	әб		Т
1.37	Realty Income Corp	4 mil	•			P/E Ratio TTM	leJ		
1.43	Motorola Solutions Inc	1 mil	<b>⊕</b>		Avg Index	FORIOTIO STAUSTICS	Grawth	Value Blend Growth	s 4
1.43	cripriase chergy inc	908,171	Œ			Double Continuing		2	7
1.50	Devon Energy Corp		1	0.00	100.00	100.00		<u>ta</u>	Total
1.52	Amphenol Corp Class A		①	0.00	0.00	0.00	Clsfd	Other/Not Clsfd	9
1.58	Cheniere Energy Inc		•	0.00	0.00	0.00		Bonds	Во
1./	Cadence Design Systems inc		Œ	0.00	1.33	1.33	tocks	Non-US Stocks	Z
1 11	23% Idillover haddo		00-2022	0.00	98.25	98.25	•	US Stocks	S
%	174 Total Stocks , 0 Total Fixed-Income,	Amount	Since	0.00	0.42	0.42		sh	Cash
Net Assets	Holdings:	Share	Share Chg	Short %	Long %	Net %	Asset Allocation %	set Allo	As
						Portfolio Analysis 09-30-2022	Analysi	ortfolio	7

I	6 60 Healthcare	0.00 🖬 Consum	1.01 → Defensive	Rel Std Index Technology	— 🌣 Industrials	—	— Gommu	— v Sensitive	Real Estate	Financia	Consum	Basic M		Sector Weightings
Utilities	are	Consumer Defensive	ive	logy	als		Communication Services	ve	tate	Financial Services	Consumer Cyclical	Basic Materials	_	ntings
0.0	15.3	1.2	16.5	30.1	13.1	6.8	6.3	56.3	7.4	6.1	9.7	4.1	27.2	Stocks %
0.00	1.00	0.17	0.64	1.27	1.57	1.49	0.78	1.26	2.54	0.46	0.85	1.81	0.92	Rel Std Index

Minimum Initial Purchase:	ISIN:	Ticker:	Base Currency:
\$3,000	US9219377283	VMGMX	USD
Total Assets:	Туре:	Incept:	Purchase Constraints:
\$9,080.61 mil	MF	09-27-2011	1

Objective:

Manager: Family:

Tenure:

9.7 Years Growth Multiple Vanguard

## Index Admiral (USD) Vanguard Mid-Cap Value

Category Index
Russell Mid Cap
Value TR USD

Morningstar Cat
US Fund Mid-Cap
Value

201:		270	364	391	405	No. in Cat
		12	36	54	51	% Rank Cat
	1	0.66	0.48	0.36	2.46	+/- Cat Index
	1	-1.60	-4.00	-3.31	4.37	+/- Std Index
)	11.16	10.10	5.23	4.86	-11.10	Total Return
	11.16	10.10	5.23		-11.10	Std 09-30-2022
	11.16	10.10	5.23	4.86	-11.10	Load-adj Mthly
	Incept	10 Yr	5 Yr	3 Yr	1 Yr	Trailing Returns
	-17.85	ı	-5.55	-13.05	0.04	2022
:	28.76	8.21	-0.19	4.84	13.70	2021
	2.54	18.14	6.58	18.65	-31.36	2020
99	Total %	4th Otr	3rd Otr	2nd Otr	1st Otr	Quarterly Returns
•					-30-2022	Performance 09-30-2022

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

30-day SEC Yield 10-24-22

7-day Yield

Subsidized 2.46

Unsubsidized 2.22

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

Front-End Load %	Sales Charges	Fees and Expenses	
z			

	Risk and Return Profile
0.07	Gross Expense Ratio %
0.07	Net Expense Ratio %
NA	12b1 Expense %
0.06	Management Fees %
	Fund Expenses
NA NA	Front-End Load % Deferred Load %

Best Fit Index Morningstar US Mid Brd Val TR USD -0.40 0.97 99.39 2.32% 21.96%	Mornir B	Standard Index -2.80 1.04 84.26	MPT Statistics Alpha Beta R-Squared 12-Month Yield Potential Cap Gains Exp
10 Yr 16.09 10.10 0.64	5 Yr 20.34 5.23 0.30	3 Yr 22.98 4.86 0.30	Standard Deviation Mean Sharpe Ratio
10 Yr 270 funds 5★ -Avg +Avg	5 Yr 364 funds 4★ Avg Avg	3 Yr 391 funds 3★ -Avg Avg	Morningstar Rating™ Morningstar Risk Morningstar Return
0.06 NA <b>0.07</b>			Management Fees % 12b1 Expense % Net Expense Ratio % Gross Expense Ratio % Risk and Return Profile

888

Credit Quality Breakdown – AAA

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	U1-27-2022 391 US Fund Mid-Cap Value	Morningstor Analyst Rating IM Overall Morningstor Rating IM Standard Index Co
	S&P 500 TR USD Ru Va	Standard Index
3	Ya Bu	3

% Hank Cat No. of Funds in Cat	407	413	415	422	417	405	399	471	460	415	425	1 1
+/- Category Index	2.51	0.42	-2.42	0.93	-0.13	3.70	-4.74 71	2.98	-0.77	4.20	-2.48	1.10
+/- Standard Index	6.02	0.05	-15.86	-3.49	-8.04	-4.79	3.30	-3.18	0.30	5.27	0.02	-2.40
Total Return %	-17.85	28.76	2.54	27.99	-12.42	17.04	15.26	-1.80	13.98	37.66	16.02	-0.29
NAV/Price	63.02	77.84	61.61	61.79	49.33	57.74	50.31	44.54	46.30	41.30	30.47	26.77
History	09-22	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Performance Quartile (within category)												
Growth of \$10,000  Vanguard Mid-Cap Value Index Admiral 29,239  Caregory Average 24,824  Standard Index 35,961	- 4 - 10k	<b>)</b>	1	<b>}</b>		N. I	1	<b>)</b>	<b>\</b>	<b>\</b>	}	2
Investment Style Equity Stocks %	99	99	<b>1</b> 0	<b>1</b> 0	<b>1</b> 00	ē	99	10 H	<b>1</b> 0	<b>1</b>	100	99

			Ltd Mod Ext	Fixed-Income Style	:					Value Blend Growth	Equity Style	lotal	Total	Other/Not Clsfd	Bonds	Non-US Stocks	US Stocks	Cash	Asset Allocation %	Portfolio Ana
мор	Avg Wtd Price	Ava Wtd Coupon		tyle Ava Eff Maturity		\$mil	Geo Ava MA Can		P/E Ratio TTM		Portfolio Statistics	100.00	100 00	fd 0.00	0.00	s 1.60	97.69	0.71	n % Net %	Portfolio Analysis 09-30-2022
							0.57			Index	Port Rel	100.00	100.00	0.00 0	0.00	1.60	97.69	0.71 0	Long % Short %	
Sector Weightings	 ⊕	(I)	1	1	 ⊕	<b>⊕</b>	1 ⊕	1	1.02 ⊕	Cat		÷ (	<b>D</b>	⊕	0.00 ⊕	0.00 ⊕	0.00	1.00 since	rt % Share Chg	
ghtings	3 mil	954,649	2 mil	6 mil	3 mil	2 mil	9 mil	2 mil	4 mil	7 mil			2 mil	2 mil	6 mil	5 mil	1	Amount	Share	
Stocks %	3 mil Constellation Energy Corp	Ameriprise Financial Inc	Nucor Corp	The Kroger Co	WEC Energy Group Inc	Keysight Technologies Inc	VICI Properties Inc Ordinary Shares	Dollar Tree Inc	Welltower OP LLC	Carrier Global Corp Ordinary Shares		Consolidated Edison Inc	M&T Bank Corp	Arthur J. Gallagher & Co	Corteva Inc	centene corp	17 % Idillover riduo	199 lotal Stocks , U lotal Fixed-Income,	Holdings:	
Rel Std Index	0.96	0.97	0.99	1.00	1.00	1.00	1.02	1.03	1.06	s 1.06		1.08	1.10	1.28	1.47	1.58	2	%	Net Assets	

Bond %	Sector Weightings  O Cyclical  Resin Materials	Stocks % <b>44.9</b> 5.6	
	Consumer Cyclical	9.3	
l	Financial Services	18.4	
ı	Real Estate	11.5	01
	₩ Sensitive	25.	6
1	■ Communication Services	2.	5ī
1	★ Energy	4.	_
I	Industrials	11.3	ω
Rel Std Index	Technology	7.	6
0 99	→ Defensive	29	.6
1 24	Consumer Defensive	7.2	.2
10 77	♣ Healthcare	<b>&amp;</b>	.7
0.	Utilities	13.7	7

Objective: Tenure: Manager: Family:

Multiple 16.2 Years Growth

Ticker:

Base Currency:

OSD

ISIN:

Minimum Initial Purchase:

\$3,000

Total Assets:

\$14,969.63 mil

US9219376947 VMVAX

Incept:

09-27-2011

Purchase Constraints:

Vanguard

Greater Europe Greater Asia

98.4 1.2 0.4

Americas

Regional Exposure

Stocks %

묾 Below B

## **2020 Fund (USD)** Vanguard Target Retirement Morningstar Analyst Rating™ Overall Morningstar Rating™ § Silver ★★★★ 02-24-2022 146 US Fund Target-Date Morningstar Mod Tgt Risk TR USD Standard Index Category Index

**US Fund Target-Date** Morningstar Cat

Performance 09-30-2022	-30-2022				
Quarterly Returns	1st Otr	2nd Otr	3rd Qtr	4th Otr	Total %
2020	-10.76	11.40	4.48	7.86	12.04
2021	1.28	4.20	-0.41	2.91	8.17
2022	-5.06	-9.20	-5.12		-18.21
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-15.83	1.17	2.91	5.46	5.30
Std 09-30-2022	-15.83		2.91	5.46	5.30
Total Return	-15.83	1.17	2.91	5.46	5.30
+/- Std Index	2.37	0.02	-0.04	0.29	
+/- Cat Index	3.05	0.99	0.43	0.84	
% Rank Cat	36	48	35	24	
No. in Cat	156	146	119	56	
		,	2	-	

	Subsidized	Unsubsidized
7-day Yield		I
30-day SEC Yield 10-24-22	2.49	2.57
<b>Performance Disclosure</b> The Overall Morningstar Rating is based on risk-adjusted returns,	based on risk-au	justed returns,
derived from a weighted average of the three-, five-, and 10-year	f the three-, five	-, and 10-year

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

Cash

Asset Allocation %

Net Assets

Portfolio Analysis 09-30-2022

(if applicable) Morningstar metrics.

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

Fees and Expenses

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

Izbi Expense %			NA
Net Expense Ratio %			0.08
Gross Expense Ratio %			0.08
Risk and Return Profile			
	3 Yr	5Yr	10 Yr
	146 funds	119 funds	56 funds
Morningstar Rating™	3 <b>★</b>	4⋆	4★
Morningstar Risk	Avg	Avg	Avg
Morningstar Return	Avg	Avg	+Avg
	3 Yr	5 Yr	10 Yr
Standard Deviation	10.98	9.59	7.96
Mean	1.17	2.91	5.46

					ñ
	3 Yr	5Yr	10 Yr		u u
		119 funds	56 funds		DSIM
Morningstar Rating™	3 <b>★</b>	<b>4★</b>	<b>4★</b>		MOT
Morningstar Risk	Avg	Avg	Avg		
Morningstar Return	Avg	Avg	+Avg	Credit Quality Brea	9
	3 Yr	5Yr	10 Yr	AAA	
Standard Deviation	10.98	9.59	7.96	▷ }	
Mean	1.17	2.91	5.46		
Sharpe Ratio	0.10	0.22	0.62	BB	
MPT Statistics	Standard Index	Bes Morni Allocatio	Best Fit Index Morningstar Gbl Allocation TR USD	Below B	
Alpha	-0.01		0.69		l
Beta	0.83		0.80	Regional Exposure	- i
R-Squared	98.87		99.05	Americas	
12-Month Yield			2.57%	Greater Europe	
Potential Cap Gains Exp			43.35%	Greater Asia	l
Operations					

64.0 17.0 19.0

1.04 0.95 0.93

Rel Std Index

0.39 0.00

			0	0	21	2		:	į	\	i					
205	32	-1.14	0.01	0.60	21.69	2011			_{	!					≅ 🎹	
208	ၾ	-0.18	0.31	12.35	23.83	2012									33	<b>Silver</b> 02-24-2022
222	78	2.87	1.54	15.85	27.11	2013				1					36	<b>/er</b> 022
228	_	1.24	2.22	7.11	28.46	2014									38	_
237	23	1.20	=======================================	-0.68	27.15	2015				Į					40	-
221	29	-0.71	-1.62	6.95	28.26	2016				1					<b>A</b>	**** 146 US 2020
234	17	1.29	-0.58	14.08	31.38	2017									43	Fund Ta
250	42	-0.08	0.52	-4.24	28.63	2018					]				44	★★★★ 146 US Fund Target-Date 2020
233	28	-0.10	-1.39	17.63	32.53	2019				)	}				48	
178	46	-1.28	-0.78	12.04	34.29	2020				•					5	Morning Tgt Risk
171	68	-0.87	-2.02	8.17	31.02	2021									50	Morningstar Mod Tgt Risk TR USD
156	1	3.50	2.70	-18.21	25.37	09-22					<i>}</i>				27	
								: #	10k		·· 20k	4UK		: 2 2 3 3 5 5	: 100k	Morningstar Lifetime Mor TR USD
No. of Funds in Cat	% Rank Cat	+/- Category Index	+/- Standard Index	Total Return %	NAV/Price	History	Performance Quartile (within category)		<del>≓</del> 0	လ <del>-</del>	     C	1 <sub>2</sub> 20	<b> </b>	Growth of \$10,000	Investment Style Fixed-Income Bond %	Morningstar US Fu Lifetime Mod 2020 2020 TR USD
Funds	k Cat	egory	ındard	leturn	rice	2	mance catego		18,413	Standard Index	Category Average	2020 Fund 18.975	Vanguard Target Retirer	h of \$1	ment S Incom %	<u>2</u> 0 20
in Cat		Index	Index	%			) Quar			nd Ind	ry Ave	ind	ard Tai	10,000	e Style	1S Fur. 020
_							tile			e X	erage		rget R			US Fund Target-L 2020
													etirer			rget-E

Income Style	Mod Ext Avg Eff Maturity Avg Eff Duration Avg Wtd Coupon Avg Wtd Price Avg Wtd Price	7.69 6.12 1.92 93.16
lity Rreak	nwn 08-21-2022	Rond
		64.8
		8.11
		14.02
		12.38
		0.00

	g Mkt Cap	io TTM	io TTM	io TTM	Statistics		100.00	0.53	55.95	16.48	24.47	2.57	Net %
	53576	2.1	10.3		Port Avg I		109.31	0.53	55.96	16.48	24.47	11.87	Long %
	1.48 0.92				Rel Rel Index Cat		9.31		0.02		0.00	9.30	Short %
Financial Services	Consumer Cyclical	Basic Materials	y cyclical	Sector weightings	Costor Weightings	⊕ 185 mi	① 225 mil	⊕ 458 mil	① 60 mil	① 1,35/ mil	00-2022	since Amount	Share Chg Share
rvices 15.5	yclical 11.3			3(0)	Charle 0/	185 mil Vanguard Shrt-Term Infl-Prot Sec I	ii Vanguard Total Intl Bd II Idx Insl						

Sec	Sector Weightings	Stocks %	Rel Std Index
ح	Cyclical	35.3	0.90
	Basic Materials	4.8	0.92
Ð	Consumer Cyclical	11.3	1.05
П.	Financial Services	15.5	0.96
₽	Real Estate	3.7	0.52
<b>{</b>	Sensitive	42.1	1.16
EC.	Communication Services	7.0	1.20
<b>3</b>	Energy	5.2	0.96
٥	Industrials	10.9	0.98
	Technology	19.0	1.35
ţ	Defensive	22.6	0.93
$\mathbf{I}$	Consumer Defensive	7.2	0.92
	Healthcare	12.2	0.96
	Utilities	s s	0.85

ISIN: Minimum Initial Purchase:	Ticker:	Base Currency:
US92202E8057 \$1,000	VTWNX	USD
Type: Total Assets:	Incept:	Purchase Constraints:
MF \$39,834.77 mil	06-07-2006	

Manager: Family:

Multiple

Asset Allocation 9.7 Years Vanguard

Tenure: Objective:

24.80 16.89 14.42 10.98

31.61

#### **2025 Fund (USD)** Vanguard Performance 09-30-2022 Target Retirement ee 🗔 69 67 66 2025 2 62 63 66 Standard Index Tgt Risk TR USD Morningstar Mod 8 52 TR USD Lifetime Mod 2025 Morningstar Category Index Investment Style 2025 **US Fund Target-Date Morningstar Cat**

70

49

Stocks % Equity

Quarterly Returns	1st Otr	2nd Otr	3rd Otr	4th Otr	Total %
2020	-12.95	13.20	5.17	9.33	13.30
2021	1.86	4.79	-0.65	3.55	9.80
2022	-5.51	-10.72	-5.59		-20.35
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-17.53	1.40	3.15	5.96	5.88
Std 09-30-2022	-17.53	1	3.15	5.96	5.88
Total Return	-17.53	1.40	3.15	5.96	5.88
+/- Std Index	0.67	0.26	0.20	0.79	
+/- Cat Index	2.35	1.13	0.52	0.74	
% Rank Cat	58	46	34	21	
No. in Cat	224	200	170	93	

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year 30-day SEC Yield 10-24-22 (if applicable) Morningstar metrics. Performance Disclosure 2.38 2.32

-0.61

145

-0.96 -0.37

7-day Yield

Subsidized

Unsubsidized

12.27

2011

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. does not guarantee future results. The investment return and The performance data quoted represents past performance and

Portfolio Analysis 09-30-2022

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

Sales Charges	
Front-End Load %	₹
Deferred Load %	₹
Fund Expenses	
Management Fees %	0.00
12b1 Expense %	K
Net Expense Ratio %	0.0

**Gross Expense Ratio %** 

0.08

Fixe

**Risk and Return Profile** 

		Vanguard	Family: Va
			Operations
46.16%			Potential Cap Gains Exp
2.31%			12-Month Yield
99.29		99.25	R-Squared
0.93		0.97	Beta
1.05		0.25	Alpha
Morningstar Gbl Allocation TR USD	Alloca		
Best Fit Index	: 	Standard Index	MPT Statistics
0.60	0.23	0.12	Sharpe Ratio
5.96	3.15	1.40	Mean
9.17	11.18	12.78	Standard Deviation
10 Yr	5 Yr	3 Yr	
+Avg	Avg	Avg	Morningstar Return
Avg	Avg	Avg	Morningstar Risk
4⊁	3¥	3 <b>★</b>	Morningstar Rating™
93 funds	170 funds		
10 Yr	5 Yr	3 Yr	

Ilsm2	Ben L/D			Equity Style Portf	Iolai	Total	Other/Not Clsfd	Bonds	Non-US Stocks	US Stocks	Cash	Asset Allocation %
	Gen Ava Mkt Can	P/C Ratio TTM	P/E Ratio TTM	Portfolio Statistics	100.00	100 00	0.48	44.07	20.80	31.96	2.68	Net %
	54233 1 50		13.7 1.04		100.04	108 3/	0.48	44.08	20.80	31.96	11.01	Long %
			4 0.94		0.04	Ω N	0.00	0.01	0.00	0.00	8.33	Short %
Financia	Consum	Basic M	Sector Weigh	(	_	① 33	⊕ 1,000	2,15	①	00-2022	SINCE /	Share Chg

>	# DE			h		Mod	ă.	
	ality Br					d Ext	d-Income Style	
	dit Quality Breakdown 08-31-2022	γ	Avg Wtd Price	Avg Wtd Coupon	를 Avg Eff Duration	Avg Eff Maturity	/le	
50 7/I	Bond %		92.26	2.14	6.65	8.45		

M		
Credit Quality Breakdown 08-31-2022	1-2022	Bond %
AAA		59.74
AA		9.24
Α		16.05
BBB		14.21
BB		0.00
σ		0.00
Below B		0.44
NR		0.32
Regional Exposure	Stocks %	Rel Std Index
Americas	64.7	1.05
Greater Europe	16.6	0.93
Greater Asia	18.7	0.91

Rel Std Index	Stocks %	Sector Weightings	dex Cat	ğ
			Rel	<u>B</u>
3.36	99 mil Vanguard Shrt-Term Infl-Prot Sec I	⊕ 99 mil		
12.92	Vanguard Total Intl Bd II Idx Insl	→ 351 mil	& 42	
21.31	Vanguard Total Intl Stock Index Inv	⊕ 1,006 mil	0.00	
28.76	Vanguard Total Bond Market II ldx	<ul><li>2,150 mil</li></ul>	0.01	
32.39	Vanguard Total Stock Mkt Idx Instl	① 137 mil	0 0	
	10,954 Total Stocks , 18,623 Total Fixed-Income , 7% Turnover Ratio	since Amount 08-2022	8.33 8.33	
Net Assets	Holdings:	Share Chg Share	Short %	

99 mil Vanguard Shrt-Term Infl-Prot Sec I	Intl-Prot Sec I	3.36
tor Weightings	Stocks %	Rel Std Index
Cyclical	35.2	0.90
Basic Materials	4.8	0.92
Consumer Cyclical	11.3	1.05
Financial Services	15.5	0.95
Real Estate	3.7	0.52
Sensitive	42.2	1.16
Communication Services	7.0	1.20
Energy	5.2	0.96
Industrials	10.9	0.98
Technology	19.1	1.35
Defensive	22.6	0.93
Consumer Defensive	7.2	0.92
Healthcare	12.2	0.97
Utilities	3.2	0.85

Minimum Initial Purchase:	ISIN:	Ticker:	Base Currency:
\$1,000	US92202E4098	VITVX	USD
Total Assets:	Type:	Incept:	Purchase Constraints:
\$69,386.40 mil	MF	10-27-2003	

Manager:

Multiple Vanguard

Asset Allocation 9.7 Years

Tenure: Objective:

## **2030 Fund (USD)** Vanguard Target Retirement Morningstar Analyst Rating™ Overall Morningstar Rating™ Standard Index \$\overline{\pi}\$ \Silver \\ 02-24-2022 \\ 200 US Fund Target-Date \text{Tgt Risk TR USD} 200 US Fund Target-Date 2030 Morningstar Mod Tgt Risk TR USD Category Index Morningstar Cat d Morningstar US Fund Target-Date Lifetime Mod 2030 2030 TR USD

Performance U9-3U-ZUZZ	-30-2022				
Quarterly Returns	1st Otr	2nd Otr	3rd Qtr	4th Otr	Total %
2020	-14.76	14.58	5.70	10.52	14.10
2021	2.49	5.25	-0.78	4.06	11.38
2022	-5.65	-11.67	-5.93		-21.60
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-18.42	1.82	3.43	6.46	5.69
Std 09-30-2022	-18.42		3.43	6.46	5.69
Total Return	-18.42	1.82	3.43	6.46	5.69
+/- Std Index	-0.22	0.68	0.48	1.29	I
+/- Cat Index	2.10	1.18	0.51	0.57	
% Rank Cat	50	50	44	27	
No. in Cat	224	200	168	96	

Performance Disclosure
The Overall Marningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year 30-day SEC Yield 10-24-22 (if applicable) Morningstar metrics. 2.36 2.24

7-day Yield

Subsidized

Unsubsidized

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.

	Fund Expenses
<b>5 5</b>	Front-End Load %  Deferred Load %
!	Sales Charges
	Fees and Expenses

96 funds 4 * Avg +Avg	168 funds 3* Avg	3 Yr 200 funds 3 * Avg Avg	Morningstar Rating™ Morningstar Risk Morningstar Return
			Risk and Return Profile
0.08			Net Expense Ratio % Gross Expense Ratio %
			12b1 Expense %
3			Fund Expenses
NA			Deferred Load %

Risk and Return Profile			
	3 Yr	5 Yr	10 Yr
Morningstar Rating™	3 <b>⊁</b>	3 <b>⊁</b>	<b>4★</b>
Morningstar Risk	Avg	Avg	Avg
Morningstar Return	Avg	Avg	+Avg
	3 Yr	5 Yr	10 Yr
Standard Deviation	14.11	12.38	10.14
Mean	1.82	3.43	6.46
Sharpe Ratio	0.15	0.24	0.60
MPT Statistics	Standard Index		Best Fit Index Morningstar Mod
Alpha	0.71		0.71
Beta	1.07	07	1.07
R-Squared	99.34	34	99.34
12-Month Yield			2.28%
Potential Cap Gains Exp			50.16%
Operations			

Family:

Greater Europe Greater Asia

Americas

Regional Exposure

Stocks %

Rel Std Index

64.8 16.6 18.6

1.05 0.93 0.91

Manager: Tenure:

9.7 Years Vanguard Multiple

Ticker:

VTHRX US92202E8883

Base Currency:

ISIN:

Minimum Initial Purchase:

\$1,000

Type: Incept:

⋚ 06-07-2006

\$72,115.54 mil

Purchase Constraints:

Total Assets:

Asset Allocation

Objective:

					7000							
75	78	76	74	73	3 🏪	70	88	68	88	63	57 100k	Investment Style Equity Stocks %
<b>)</b>		1		<b>)</b>	<b>\</b>		<b></b>	}	1		- 20k	Growth of \$10,000  Vanguard Target Retirer 2030 Fund 20,748  Category Average 18,597  Standard Index 18,413
											<u></u>	Performance Quartile (within category)
2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	09-22	History
20.92	23.38	27.64	29.04	27.72	29.20	33.63	30.82	36.45	40.55	38.42	30.12	NAV/Price
-1.27	14.24	20.49	7.17	-1.03	7.85	17.52	-5.86	21.07	14.10	11.38	-21.60	Total Return %
-1.86	2.20	6.18	2.28	0.76	-0.72	2.87	-1.10	2.05	1.28	1.19	-0.69	+/- Standard Index
-0.04	-0.43	0.85	1.16	1.27	-1.41	0.93	-0.03	-0.17	0.41	-0.31	2.19	+/- Category Index
22	88	25	5	ಆ	32	32	37	32	88	61	1	% Rank Cat
205	208	222	228	237	221	234	239	241	224	221	225	No. of Funds in Cat
•												

Value Blend Growth	Portfolio Analysis 09-30-2022 Asset Allocation % Cash US Stocks Non-US Stocks Ronds Other/Not Clsfd Total
Portfolio Statistics P/E Ratio TTM P/C Ratio TTM P/C Ratio TTM P/B Ratio TTM Geo Avg Mkt Cap \$mil	sis 09-30-2022 Net % 2.81 37.16 24.08 35.53 0.42 100.00
Port Rel Avg Index 13.7 1.04 10.4 1.02 2.1 1.08 54319 1.51	Long % 998 37.16 24.08 35.54 0.42 107.19
Rel Cat 0.93 0.93 0.91 0.84	Short % 7.18 0.00 0.00 0.01 0.01 0.00 7.19
Sector Weightings  1	Share Chg Share since Amount 08-2022 166 mil
ils Dical vices	Share Holdings: Amount 11,066 Total Stocks , 18,445 Total Fixed-Income 6% Tumover Ratio 166 mil Vanguard Total Stock Mkt Idx Instl ,961 mil Vanguard Total Bond Market II Idx ,7210 mil Vanguard Total Intl Stock Index Inv 314 mil Vanguard Total Intl Bd II Idx Insl
Stocks % <b>35.2</b> 4.8  11.3  15.5  3.7	Total Fixed-Income, Alkt Idx Instl Varket II Idx ck Index Inv II Idx Insl
Rel Std Index <b>0.89</b> 0.91 1.05 0.95 0.52	Net Assets % 37.65 25.25 24.67

0.4/		NR NR
0.00		-
0.00		BB
15.37		BBB
17.31		A
9.91		AA
56.61		AAA
Bond %	Credit Quality Breakdown 08-31-2022	Credit Quality Br
	гом	
91.69	Avg Wtd Price	
2.29		
6.98	Avg Eff Duration	
8.93	Avg Eff Maturity	Ltd Mod Ext
	-	Fixed-Income Style

٥	(		
<u>e</u> 1	Sector Weightings	Stocks %	Rel Std Index
~	Դ Cyclical	35.2	0.89
~ 0	★ Basic Materials	4.8	0.91
_ 、	Consumer Cyclical	11.3	1.05
-	Financial Services	15.5	0.95
	Real Estate	3.7	0.52
'	∨ Sensitive	42.2	1.16
ω	Communication Services	7.0	1.20
ω	★ Energy	5.2	0.96
ق	ndustrials	10.9	0.98
w.	Technology	19.1	1.35
	→ Defensive	22.6	0.93
- 1	Consumer Defensive	7.2	0.92
- ×	◆ Healthcare	12.2	0.97
	Utilities	3.2	0.85
: ==			

©20 opin Mon and infor inclu

#### **2035 Fund (USD)** Vanguard Target Retirement Performance 09-30-2022 83 Morningstar Analyst Rating™ Overall Morningstar Rating™ □ Silver ★★★★ □ 2.24-2022 193 US Fund Target-Date ~ III 193 US Fund Target-Date Tgt Risk TR USD Standard Index Morningstar Mod Lifetime Mod 2035 TR USD Morningstar Category Index 2035 **US Fund Target-Date** Morningstar Cat

	100				
Quarterly Returns	1st Otr	2nd Otr	3rd Qtr	4th Qtr	Total %
2020	-16.52	15.90	6.29	11.62	14.79
2021	3.17	5.65	-0.87	4.55	12.96
2022	-5.66	-12.41	-6.09		-22.40
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-18.87	2.39	3.78	6.99	6.52
Std 09-30-2022	-18.87	1	3.78	6.99	6.52
Total Return	-18.87	2.39	3.78	6.99	6.52
+/- Std Index	-0.67	1.25	0.84	1.82	
+/- Cat Index	1.87	1.17	0.51	0.53	
% Rank Cat	39	49	44	28	
No. in Cat	217	193	167	90	
		Sı	Subsidized	Unsı	Unsubsidized

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year 30-day SEC Yield 10-21-22 Performance Disclosure 7-day Yield 2.43 2.28

2011

12.51 -2.24 -2.83 0.04

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. does not guarantee future results. The investment return and The performance data quoted represents past performance and

(if applicable) Morningstar metrics.

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

. coo min = inframeous	
Sales Charges	
Front-End Load %	Š
Deferred Load %	N
Fund Expenses	
Management Fees %	0.00
10k1 F	2

Fund Expenses			
Management Fees %			0.00
12b1 Expense %			NA
Net Expense Ratio %			0.08
Gross Expense Ratio %			0.08
Risk and Return Profile			
	3 Yr 193 funds	5 Yr 167 funds	10 Yr 90 funds
Morningstar Rating™		3⊁	4⊁
Morningstar Risk	-Avg	-Avg	-Avg
Morningstar Return	Avg	Avg	+Avg
	3 Yr	5 Yr	10 Yr
Standard Deviation	15.35	13.52	11.10
Mean	2.39	3.78	6.99
Sharpe Ratio	0.19	0.25	0.60
MPT Statistics	Standard Index		Best Fit Index Morningstar
		Litetime	Litetime iviod 2035 TR USD
Alpha	1.32	2	1.12
Beta	1.16	6	0.94
R-Squared	99.22	2	99.43

154	40	-0.20	3.12	15.16	14.09	2012		85
181	23	0.79	8.52	22.82	16.98	2013		8 🖽
185	10	1.44	2.35	7.24	17.84	2014		82 🎹
205	37	1.32	0.53	-1.26	16.84	2015		₩ 20
195	32	-1.80	-0.31	8.26	17.74	2016		79
208	ဒ္ဌ	0.60	4.46	19.12	20.69	2017		7 1
221	32	0.24	-1.82	-6.58	18.82	2018		75
229	42	-0.60	3.41	22.44	22.52	2019		75
207	43	1.41	1.97	14.79	25.22	2020		75 🍱
213	79	-0.67	2.77	12.96	23.84	2021		70
218	I	1.87	-1.49	-22.40	18.50	09-22		65 E5 100 440 100 100 100 100 100 100 100 100
No. of Funds in Cat	% Rank Cat	+/- Category Index	+/- Standard Index	Total Return %	NAV/Price	History	Performance Quartile (within category)	LISU  Investment Style Equity Equity Stocks % Stocks % Stocks % Wanguard Target Re 2025 Fund 21,73520k Category Average 19,935 Standard Index 18,413

etirement

Portfolio Analysis 09-30-2022	<b>is</b> 09-30-2022						
Asset Allocation %	Net %	Long %	Short %	Chg	Share Holdings:		Net As:
Cash	2.92	8.57	5.66		Amount 11,153 Total Stocks , 18,102 Total Fixed-Income	102 Total Fixed-Income,	
US Stocks	41.38	41.38	0.00	7207-00	o% Fullover haud		
Non-US Stocks	27.17	27.17	0.00	① 180	180 mil Vanguard Total Stock Mkt Idx Inst	ck Mkt Idx InstI	41
Bonds	28.19	28.20	0.01	① 1,330	,330 mil Vanguard Total Intl Stock Index Inv	Stock Index Inv	27
Other/Not Clsfd	0.34	0.34	0.00	① 1,521	,521 mil Vanguard Total Bond Market II ldx	d Market II Idx	20
Total	100.00	105.67	5.67	① 241	241 mil Vanguard Total Intl Bd II Idx Insl	Bd II Idx Insl	<b>&amp;</b>
Equity Style	Portfolio Statistics		- - Be	Sector Weightings	ıgs	Stocks %	Rel Std Ir
Value Blend Growth	P/F Ratio TTM	Avg Index	n ozi	Դ Cyclical		35.3	
эблел	P/C Batio TTM			Basic Materials	terials	4.8	0
9W	P/B Ratio TTM			Consumer Cyclical	Cyclical	11.3	_
S F	à			Financial Services	Services	15.5	0
llem	\$mil			Real Estate	le e	3.7	0

Fixed-Income Style	ncom	ie Sty	<del>6</del>		
듄	Mod	₹ .		Avg Eff Maturity	8.93
_			ЭH	Avg Eff Duration	6.98
			ųŧ	Ava Wtd Collnon	2 29
			1	Jodno na sa Bay	7.7
			baM	Avg Wtd Price	91.70
			γoη		
	:	,	-		
Credit	Quali	ξBr	eako	Credit Quality Breakdown 08-31-2022	Bond %
AA					56.72
A					9.86
⊳					17.26
RRR					1E 26

Bond % 56.72 9.86		91.70	6.98 2.29	8.93				8 0.92		a Cat		5.67	0.01	0.00	Short % 5.66	
Consumer Defensive Healthcare Utilities	→ Defensive	Technology	★ Energy Industrials	Communica	<b>₩</b> Sensitive	Real Estate	Financial Services	Consumer Cyclical	Basic Materials	Դ Cyclical	Sector Weightings	① 241 mil		⊕ 180 mil	Share Chg Share since Amount 08-2022	
Defensive				Communication Services			ervices	Cyclical	rials		S					
7.2 12.2 3.2	22.6	19.1	5.2 10.9	7.0	42.2	3.7	15.5	11.3	4.8	35.3	Stocks %	Vanguard Total Intl Bd II ldx Insl	Vanguard Total Intl Stock Index Inv	Vanguard Total Stock Mkt Idx Instl	Holdings : 11,153 Total Stocks , 18,102 Total Fixed-Income, 6% Tumover Ratio	
0.92 0.97 0.85	0.93	1.35	0.96 0.98	1.20	1.16	0.52	0.95	1.05	0.92	0.90	Rel Std Index	8.76	27.84	41.93	Net Assets ome, %	

Potential Cap Gains Exp	Exp	55.22%				
Operations						
Family:	Vanguard		Base Currency:	USD	Purchase Constraints:	ı
Manager:	Multiple		Ticker:	VITHX	Incept:	_
Tenure:	9.7 Years		ISIN:	US92202E5087	Туре:	7
Objective:	Asset Allocation		Minimum Initial Purchase:	\$1,000	Total Assets:	€9

10-27-2003

\$70,249.96 mil

12-Month Yield

2.47% 99.43

Greater Asia Americas

Greater Europe

64.5 16.7 18.8

0.94 0.92

Regional Exposure

Rel Std Index

1.04

0.47 0.33

0.00

Below B NR

888

#### **2040 Fund (USD)** Vanguard Target Retirement 22 88 88 2040 88 84 88 82 Standard Index Tgt Risk TR USD Morningstar Mod 88 76 73 TR USD Lifetime Mod 2040 Morningstar Category Index Investment Style 2040 **US Fund Target-Date** Morningstar Cat

89

88

Equity Stocks %

l Insubsidized	llne	Suheidizad	2		
	96	168	194	218	No. in Cat
	22	39	46	33	% Rank Cat
	0.61	0.56	1.13	1.37	+/- Cat Index
I	2.23	1.17	1.77	-1.22	+/- Std Index
6.18	7.40	4.11	2.91	-19.42	Total Return
6.18	7.40	4.11		-19.42	Std 09-30-2022
6.18	7.40	4.11	2.91	-19.42	Load-adj Mthly
Incept	10 Yr	5 Yr	3 Yr	1 Yr	Trailing Returns
-23.27		-6.33	-13.17	-5.66	2022
14.56	5.02	-0.98	6.11	3.82	2021
15.47	12.76	6.80	17.29	-18.25	2020
Total %	4th Otr	3rd Otr	2nd Otr	1st Otr	Quarterly Returns
				7707-06-1	Performance 09-30-2022

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year 30-day SEC Yield 10-24-22 Performance Disclosure 7-day Yield 2.49 2.32

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. does not guarantee future results. The investment return and The performance data quoted represents past performance and

(if applicable) Morningstar metrics.

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

Small biM

Geo Avg Mkt Cap \$mil P/B Ratio TTM

		0.00
		NA
		0.08
		0.08
3 Yr 14 funds	5 Yr 168 funds	10 Yr 96 funds
3*	4 <b>★</b>	4★
-Avg	Avg	-Avg
Avg	Avg	+Avg
3 Yr	5Yr	10 Yr
16.61	14.69	12.03
2.91	4.11	7.40
0.22	0.27	0.60
	3 Yr 194 funds 3 ** -Avg Avg 3 ** 16.61 2.91 0.22	6

,	
	Growth of \$10,000
	Vanguard Target Retirement
l	l
20,14c	20,148
10k — Stands	I
	4k
Performanc (within catego	Performance Quartile (within category)
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 09-22 <b>History</b>	2021 09-22
20.50   23.18   28.32   29.76   28.45   30.21   35.77   32.31   39.13   44.27   42.03   32.25 NAV/Price	42.03 32.25
-2.55   15.56   24.37   7.15   -1.59   8.73   20.71   -7.32   23.86   15.47   14.56   -23.27   Total Return	14.56
-3.14 3.52 10.07 2.26 0.21 0.16 6.05 -2.57 4.83 2.65 4.37 -2.36 +/- Standard	4.37
0.30 -0.15 1.32 1.63 1.25 -1.88 0.84 0.33 -0.49 2.38 -0.80 1.27 +/- Categon	-0.80
19 31 15 12 43 27 25 37 43 40 81 — % Rank Cat	<u>8</u>
202   204   218   227   237   221   234   239   241   218   215   220 No. of Funds	215
Doublis Applies no 20 2022	

	-				-	
Portfolio Analysis 09-30-2022	<b>is</b> 09-30-2022					
Asset Allocation %	Net %	Long %	Short %	Share Chg Share	Holdings:	Net Assets
Cash	2.95		4.16	Amount	11,202 Total Stocks , 17,520 Total Fixed-Income ,	%
US Stocks	45.84	45.84	0.00	7202-00	7% Lulilover natio	
Non-US Stocks	30.11	30.11	0.00	⊕ 1/1 mil	1/1 mil Vanguard Total Stock Mkt Idx Insti	46.45
Bonds	20.83	20.84	0.01	⊕ 1,267 mil	1,267 mil Vanguard Total Intl Stock Index Inv	30.85
Other/Not Clsfd	0.26	0.26	0.00	⊕ 969 mil	969 mil Vanguard Total Bond Market II ldx	14.91
Total	100.00	104.17	4.17	① 152 mil	152 mil Vanguard Total Intl Bd II Idx Insl	6.43
Equity Style	Portfolio Statistics	Port Rel	Rel	Sector Weightings	Stocks %	Rel Std Index
Value Blend Growth	P/F Ratio TTM	Avg Index 13.7 1.04		∿ Cyclical	35.3	0.90
agie.	P/C Ratio TTM			Basic Materials	ils 4.8	0.92
P!W	P/B Ratio TTM			Consumer Cyclical		1.05
JS I	ap	54054 1.50 0.90	0.90	Financial Services		0.95
w						

			1
Eivad Inaama Ctula			<b>₩</b> Sensitive
rixed-income style			
Ltd Mod Ext	Avg Eff Maturity	8.93	Communica
	Avg Eff Duration	6.97	Energy
ı u	Avg Wtd Coupon	2.29	Industrials
Med	Avg Wtd Price	91.71	Technology
MOT			→ Defensive
Credit Quality Breakdown 08-31-2022	down 08-31-2022	Bond %	
AAA		56.83	I I HEALTHCALE
AA		9.80	Otilities
A		17.22	
BBB		15.35	
BB		0.00	
В		0.00	

	→ Defensive 2:	■ Technology 19	industrials 10	<b>♦</b> Energy	☐ Communication Services	∨ Sensitive 4:	Real Estate	Financial Services	Consumer Cyclical
12.2 3.2	<b>22.6</b>	19.1	10.9	5.2	7.0	42.2	3.7	15.5	11.3
0.97	<b>0.93</b>	1.35	0.98	0.96	1.20	1.16	0.52	0.95	1.05

Minimum Initial Purchase:	ISIN:	Ticker:	Base Currency:
\$1,000	US92202E8701	VFORX	USD
Total Assets:	Туре:	Incept:	Purchase Constraints:

롞 06-07-2006

\$60,363.33 mil

Manager: Family:

Multiple

Tenure:

Objective:

Asset Allocation 9.7 Years R-Squared

Potential Cap Gains Exp

2.51% 23.59% 99.45 USD -0.59 0.85

Greater Europe Greater Asia

64.5 16.7 18.8

1.04 0.94 0.92

Rel Std Index

0.46 0.33

Americas Regional Exposure

12-Month Yield

Beta

1.90 1.25 99.00

MPT Statistics

Standard Index

Best Fit Index MSCI ACWI NR

Below B

묾

Helicase hate 00-00-2022					
Vanguard Target Retirement	⊦ Morningstar Analyst Rating¹	™ Overall Morningstar Rating™	Standard Index	Category Index	Morningstar Cat
Yang and Circliciff ₹ Silver **** Morningstar Mod Morningst	L Silver	***	Morningstar Mod	Morningstar	US Fund Target-Date
2045 Fund (USD)	02-24-2022	193 US Fund Target-Date	Tgt Risk TR USD	lod 2045	2045
		2045		TR USD	
				I amount out of	at Ctulo

Performance 09-30-2022	-30-2022				
Quarterly Returns	1st Otr	2nd Otr	3rd Qtr	4th Otr	Total %
2020	-19.88	18.70	7.36	13.90	16.30
2021	4.47	6.55	-1.08	5.49	16.16
2022	-5.67	-13.93	-6.51		-24.10
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-19.93	3.46	4.42	7.61	7.02
Std 09-30-2022	-19.93		4.42	7.61	7.02
Total Return	-19.93	3.46	4.42	7.61	7.02
+/- Std Index	-1.73	2.32	1.47	2.45	I
+/- Cat Index	0.90	1.36	0.74	0.73	
% Rank Cat	36	34	3	20	
No. in Cat	217	193	167	89	

Performance Disclosure
The Overall Marningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year 30-day SEC Yield 10-24-22 (if applicable) Morningstar metrics. 2.55 2.36

7-day Yield

Subsidized

Unsubsidized

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

<b>Risk and Return Profile</b>			
	3 Yr	5Yr	10 Yr
	193 funds	167 funds	89 funds
Morningstar Rating™	4*	<b>4</b> <b>★</b>	4⊁
Morningstar Risk	Avg	Avg	-Avg
Morningstar Return	Avg	+Avg	+Avg
	3 Yr	5 Yr	10 Yr
Standard Deviation	17.88	15.76	12.70
Mean	3.46	4.42	7.61
Sharpe Ratio	0.24	0.28	0.59
MPT Statistics	Standard Index		Best Fit Index MSCI ACWI NR USD
Alpha	2.52	52	-0.17
Beta	1.35	8	0.92
R-Squared	98.70	70	99.61
12-Month Yield			2.49%
Potential Cap Gains Exp			24.72%
Operations			
Family: V	Vanguard		
Manager: N	Multiple		
Tonius:	0 7 Voors		

No. of Funds in Cat	218	213	207	229	221	208	195	206	185	180	145	139
% Rank Cat	1	68	ജ	43	43	26	28	42	12	26	<b>£</b>	14
+/- Category Index	0.61	-0.20	3.35	-0.03	0.27	0.89	-1.97	1.45	1.91	1.30	-0.26	0.67
+/- Standard Index	-3.19	5.97	3.48	5.91	-3.14	6.77	0.30	0.22	2.27	10.06	3.54	÷3.11
Total Return %	-24.10	16.16	16.30	24.94	-7.90	21.42	8.87	-1.57	7.16	24.37	15.58	-2.51
NAV/Price	21.54	28.38	28.19	24.70	20.21	22.50	18.89	17.78	18.65	17.76	14.55	12.87
History	09-22	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Performance Quartile (within category)												
	4 <sub>k</sub>											
18,413	10k											
21,069 Standard Index			4					}		1		<b>)</b>
— Category Average	20k			}		\						
2045 Fund	40k											
Growth of \$10,000  Vanguard Target Retirement	60k											
Stocks %	100k	ç	8	6	8	6	8	E	G	8	ç	9
Investment Style Equity	× -	2 =	9	8	8	8	8	22 -	8	8	8	22
TR USD	TR USD				90, סני	2045	2045		_	.022		

Portfolio Analysis 09-30-2022	<b>s</b> 09-30-2022						
Asset Allocation %	Net %	Long %	Short %	Share Chg		Holdings:	Net A:
Cash	3.00	5.74	2.74	since	Amount	11,264 Total Stocks , 16,434 Total Fixed-Income ,	
US Stocks	50.34	50 34	0.00	7707-80		5% I umover nauo	
Non-IIS Stocks	22 1/	33 1/	000	•	174 mil	Vanguard Total Stock Mkt Idx Instl	ο.
1401-00 010080	00.14	. 1	0.00	) (		V/	2
Bonds	13.34	13.35	0.00	•	11m 767	,292 mil Vanguard Lotal Inti Stock index inv	ئر
Other/Not Clsfd	0.18	0.18	0.00	•	569 mil	569 mil Vanguard Total Bond Market II ldx	
Total	100.00	102.75	2.75	1	92 mil	92 mil Vanguard Total Intl Bd II ldx Insl	_
Equity Style	Portfolio Statistics		Rel	Sector Weightings	ightings	Stocks %	Rel Std I
Value Blend Growth	P/F Ratio TTM	Avg Index	다. 이 다음 다음	∿ Cyclical	cal	35.3	
Large	P/C Ratio TTM			Basic	Basic Materials	ls 4.8	_
iΜ	P/B Ratio TTM			Cons	Consumer Cyclical	lical 11.3	
S I	a	54011 1.50		<b>⊕</b> Finan	Financial Services	ices 15.5	_
llem	\$mil			<b>⊞</b> Real	Real Estate	3.7	_

Fixed-Income Style	in co	me St	¥ e		
뮵	Mod	Ext		Avg Eff Maturity	8.93
			igΗ	Avg Eff Duration	6.98
			ųŧ	Avg Wtd Coupon	2.29
			bəM	Ava Wtd Price	ı
			η		
			W		
Credit	Cua	lity B	reak	Credit Quality Breakdown 08-31-2022	Bond %
ΑA					56.48
A					9.97
⊳					17.35
BBB					15.38
BB					0.00
ᢍ					
					0.00

2 2 ;		Healthcare  Utilities
<b>22.6</b>	5	
19.1		Technology
10.9		
5.2		Energy
7.0	vices	Communication Services
42.2		∨ Sensitive
3.7		
15.5		Financial Services
11.3		Consumer Cyclical
4.8		Basic Materials
35.3		Դ Cyclical
Stocks %		Sector Weightings
II ldx Insl	Vanguard Total Intl Bd II Idx Insl	<ul><li>92 mil Va</li></ul>
/larket II ldx	Vanguard Total Bond Market II Idx	⊕ 569 mil Va
ck Index Inv	Vanguard Total Intl Stock Index Inv	1,292 mil
/lkt ldx Instl	Vanguard Total Stock Mkt Idx Instl	⊕ 174 mil Va
Total Fixed-Income,	11,264 Total Stocks , 16,434 Total Fixed-Income, 6% Turnover Ratio	since Amount 11, 08-2022 6%
!	Holdings:	ung snare

report only in le, or be derive tar, (5) are pro- r shall not be re ect to change w	hase: \$1	≤
the country in which its original distrib d from, account information provided b vided solely for informational purposes soponsible for any trading decisions, da vithout notice. Ilmestment research is s	\$1,000	VTIVX
sreport only in the country in which its original distributor is based. The information, data, analyses and be, or be derived from, account information provided by your financial professional which cannot be verified by star, (6) are provided solely for informational purposes and therefore are not an offer to buy or self a security, stall into the responsible for any trading decisions, damages or other losses resulting from, or leafaet do, this stall into the responsible for any trading decisions, damages or other losses resulting from or related to, this stall into the responsible for any trading decisions, damages or other losses resulting from the related to, this stall into the responsible for any trading decisions, damages or other losses resulting from the related to.	Type: Total Assets:	Incept:
ed by MO	MF \$55,921.32 mil	10-27-2003

Tenure:

Multiple 9.7 Years Vanguard

Ticker:

Base Currency:

USD

Purchase Constraints:

ISIN:

Minimum Initial Purch

Greater Europe Greater Asia

64.5 16.7 18.8

1.04 0.94 0.92

Americas

Regional Exposure

Rel Std Index

0.47 0.34

Below B NR

Objective:

Asset Allocation

Vanguard Target Retirement	ar Analyst Rating	™ Overall Morningstar Rating™	Standard Index	Category Index
2050 Fund (USD)	<b>Silver</b> 02-24-2022	**** 194 US Fund Target-Date 2050	Morningstar Mod Tgt Risk TR USD	Morningstar Lifetime Mod 2050 TR USD
Performance 09-30-2022				
Quarterly Returns 1st Qtr 2nd Qtr 3rd Qtr 4th Qtr Total % 84	89 89 88 89	88 88 89	91 87	85 Equity Stocks %

Morningstar Cat

Performance U9-3U-ZUZZ	-30-2022				
Quarterly Returns	1st Otr	2nd Otr	3rd Qtr	4th Otr	Total %
2020	-19.86	18.67	7.35	14.01	16.39
2021	4.53	6.61	-1.11	5.63	16.41
2022	-5.65	-14.21	-6.64		-24.43
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-20.18	3.41	4.39	7.60	6.33
Std 09-30-2022	-20.18	1	4.39	7.60	6.33
Total Return	-20.18	3.41	4.39	7.60	6.33
+/- Std Index	-1.98	2.27	1.45	2.43	
+/- Cat Index	0.73	1.24	0.73	0.75	
% Rank Cat	38	35	33	20	
No. in Cat	218	194	168	94	

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year 30-day SEC Yield 10-24-22 (if applicable) Morningstar metrics. Performance Disclosure 2.59 2.38

> 0.93 ÷3.13 -2.54

168

7-day Yield

Subsidized

Unsubsidized

20.41

2011

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. does not guarantee future results. The investment return and The performance data quoted represents past performance and

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

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

Risk and Return Profile			
	3 Yr	5Yr	10 Yr
	194 funds	168 funds	94 funds
Morningstar Rating™	<b>4</b> *	4⋆	4⊁
Morningstar Risk	-Avg	-Avg	-Avg
Morningstar Return	Avg	Avg	+Avg
	3 Yr	5Yr	10 Yr
Standard Deviation	18.01	15.86	12.76
Mean	3.41	4.39	7.60
Sharpe Ratio	0.24	0.28	0.58
MPT Statistics	Standard Index		Best Fit Index MSCI ACWI NR
		5	OSD
Alpha	2.49	3	-0.22
Beta	1.36	8	0.93
R-Squared	98 79	79	99 64

	-																	-
177	44	-0.35	3.54	15.58	23.09	2012										89		<b>Silver</b> 02-24-2022
202	30	1.51	10.04	24.34	28.19	2013										89		<b>ver</b> 022
212	16	2.18	2.29	7.18	29.62	2014									-	88		
226	45	1.62	0.22	-1.58	28.49	2015										89		
213	29	-2.04	0.28	8.85	30.39	2016										88		*** 194 US 2050
230	88	0.61	6.73	21.39	36.20	2017										88		★★★★ 194 US Fund Target-Date 2050
239	37	0.51	-3.14	-7.90	32.52	2018										88		rget-Dat
241	47	-0.10	5.96	24.98	39.77	2019										89		
217	37	3.48	3.57	16.39	45.45	2020					K	1				91		Morningstar Mo Tgt Risk TR USD
215	74	-0.19	6.22	16.41	46.90	2021					١					87		Morningstar Mod Tgt Risk TR USD
219	1	0.36	-3.52	-24.43	35.44	09-22		4k	10ķ	<u>.</u>	20k	3	40k	60k	308 	85		
No. of Funds in Cat	% Rank Cat	+/- Category Index	+/- Standard Index	Total Return %	NAV/Price	History	Performance Quartile (within category)		18,413	- Standard Index	— Category Average 20 811	23,012	2050 Fund	Vanguard Target Retirement	Growth of \$10,000	Stocks %	Investment Style	Morningstar US Fund Target-Date Lifetime Mod 2050 2050 TR USD

0.52	3.7	Real Estate			\$mil	llen
0.96	ices 15.5	Financial Services	9 0.94	53771 1.49	Geo Avg Mkt Cap	us
1.05	lical 11.3	Consumer Cyclical		2.1 1.08	P/B Ratio TTM	PIW
0.92		Basic Materials		10.4 1.02	P/C Ratio TTM	редер
0.90	35.3	∿ Cyclical	4 n car	Avg Inde	P/F Ratio TTM	Value Blend Growth
Rel Std Index	Stocks %	Sector Weightings	· B	Port Re	Portfolio Statistics	<b>Equity Style</b>
3.21	56 mil Vanguard Total Intl Bd II Idx Insl	1 56 mil	2.10	102.10	100.00	Total
7.04	Vanguard Total Bond Market II ldx	⊕ 339 mil	0.00	0.14	0.14	Other/Not Clsfd
35.60	Vanguard Total Intl Stock Index Inv		0.00	10.01	10.01	Bonds
25.83	vanguard Total Stock Mkt Tdx Insti	⊕ 144 mil	0.00	34.74	34.74	Non-US Stocks
3	Vanantario Tatal Stanla Mit Ida Inati	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.00	52.12	52.12	US Stocks
%	11,264 Turnover Ratio	Since Amount	2.10	5.09	2.99	Cash
Net Assets	Holdings:	Chg Share	Short %	Long %	Net %	Asset Allocation %
					IS U9-3U-ZUZZ	Portfolio Analysis U9-3U-2U22

Fixed-Income Style	Style	
Ltd Mod Ext	. Avg Eff Maturity	8.93
	Avg Eff Duration	6.99
		2.29
	Avg Wtd Price	1
	ГОМ	
Credit Quality	Credit Quality Breakdown 08-31-2022	Bond %
AAA		56.23
AA		10.10
A		17.45
BBB		15.41
BB		0.00
В		0.00

Sector Weightings	Stocks %	Rel Std Index
<b>Ե</b> Cyclical	35.3	0.90
Basic Materials	4.8	0.92
Consumer Cyclical	11.3	1.05
Financial Services	15.5	0.96
★ Real Estate	3.7	0.52
₩ Sensitive	<b>42.1</b>	1.16
Communication Services	7.0	1.20
<b>S</b> Energy	5.2	0.96
Industrials	10.9	0.98
Technology	19.0	1.35
► Defensive	22.6	0.93
Consumer Defensive	7.2	0.92
Healthcare	12.2	0.97
Utilities	3.2	0.85

Minimum Initial Purchase:	ISIN:	Ticker:	Base Currency:
\$1,000	US92202E8628	VFIFX	USD
Total Assets:	Туре:	Incept:	Purchase Constraints:
\$44,736.23 r	ΜF	06-07-2006	

736.23 mil

Family: Manager:

**Operations** 

Potential Cap Gains Exp

2.54% 22.99%

Greater Europe Greater Asia

64.2 16.9 18.9

1.04 0.95 0.93

Americas Regional Exposure

Stocks %

Rel Std Index

0.48 0.34

Below B

12-Month Yield

Tenure:

Multiple

Objective:

Asset Allocation 9.7 Years Vanguard

#### **2055 Fund (USD)** Vanguard ance 09-30-2022 Target Retirement Morningstar Analyst Rating™ Overall Morningstar Rating™ § Silver ★★★★ 02-24-2022 193 US Fund Target-Date Standard Index Morningstar Mod Tgt Risk TR USD Morningstar Lifetime Mod 2055 Category Index US Fund Target-Date **Morningstar Cat**

Performance U9-3U-2U22	-30-2022				
Quarterly Returns	1st Otr	2nd Otr	3rd Otr	4th Otr	Total %
2020	-19.89	18.64	7.38	13.97	16.32
2021	4.54	6.61	-1.11	5.65	16.44
2022	-5.69	-14.19	-6.63		-24.44
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-20.17	3.40	4.38	7.58	8.37
Std 09-30-2022	-20.17		4.38	7.58	8.37
Total Return	-20.17	3.40	4.38	7.58	8.37
+/- Std Index	-1.97	2.26	1.44	2.41	
+/- Cat Index	0.87	1.28	0.80	0.82	
% Rank Cat	37	35	38	26	
No. in Cat	217	193	167	71	

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year 30-day SEC Yield 10-24-22 (if applicable) Morningstar metrics. Performance Disclosure 2.59 2.39

7-day Yield

Subsidized

Unsubsidized

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. does not guarantee future results. The investment return and The performance data quoted represents past performance and

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

	Fund Expenses
NA	Deferred Load %
NA	Front-End Load %
	Sales Charges
	Fees and Expenses

Deferred Load %			Z :
Fund Expenses			
Management Fees %			0.00
12b1 Expense %			N A
Net Expense Ratio %			0.08
Gross Expense Ratio % Risk and Return Profile			0.08
	٥ ٧	п <,	10 V

KISK and Keturn Profile			
	3 Yr	5Yr	10 Yr
	193 funds	167 funds	71 funds
Morningstar Rating™	4*	4 <b>★</b>	<b>4★</b>
Morningstar Risk	-Avg	-Avg	-Avg
Morningstar Return	Avg	Avg	+Avg
	3 Yr	5 Yr	10 Yr
Standard Deviation	18.02	15.86	12.75
Mean	3.40	4.38	7.58
Sharpe Ratio	0.24	0.27	0.58
MPT Statistics	Standard Index		Best Fit Index MSCI ACWI NR
			USD
Alpha	2.48	48	-0.23
Beta	1.36	36	0.93
R-Squared	98.80	80	99.65
12-Month Yield			2.52%
Potential Cap Gains Exp			20.49%
Operations			
Family: Va	Vanguard		
	-		

				2055						TR USD		
89	89	88	89	88	88	88	89	93	86	85 100k	Investment Style Equity Stocks %	Style
	}		<b>)</b>			<b>\$</b>	<b>}</b>	1		80k 60k 40k 20k	Growth of \$10,000  Vanguard Ta 2055 Fund 23,038  Category Ave 21,511  Standard Ind 18,413	wth of \$10,000  Vanguard Target Retirement 2055 Fund 23,038 Category Average 21,511 Standard Index 18,413
											Performance Quartile (within category)	e Quartile ory)
2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	09-22	History	
24.80	30.35	31.98	30.83	32.91	39.23	35.30	43.19	49.34		39.46	NAV/Price	
3.54	10.02	2.31	0.07	0.00	6.72	-3.13	5.95	3.50		-3.52	+/- Standard Index	1 Index
-0.42	1.84	2.45	1.62	-2.03	0.43	0.68	-0.07	3.41	-0.06	0.45	+/- Category Index	/Index
48	36	16	ස	27	48	37	51	41	78	ı	% Rank Cat	
102	130	156	238	193	206	221	229	207	213	218	No. of Funds in Cat	s in Cat
	89 89 2012 24.80 15.58 3.54 -0.42 48		89 89 10.02 1.84 130	89 88 89 89 88 89 89 88 89 80 80	89 88 89  89 88 89  80 89 89  80 89 89  80 89 89  80 89 89  80 89 89  80 89 89  80 89 89  80 89 89  80 80  80 80	205  89 88 89 88  89 88 89 88  80 88 89 88  80 88 89 88  80 88 89 88  80 88 89 88  80 89 88  80 89 88  80 89 88  80 89 88  80 89 88  80 89 88  80 89 88  80 89 88  80 89 88  80 89 88  80 89 88  80 89 88  80 80 89  80 80 80  80 80  80 80  80 80 80	2015  89 88 89 88 88  89 88 89 88  80 88  80 88  80 8 88  80 8 88  80 8 88  80 8 88  80 8 8 88  80 8 8 8 8	2055   206   228   193   206   221   1	2015       89     88     89     88     88     88     89       89     88     88     88     89       89     88     88     88     89       89     88     88     88     89       89     88     88     89     89       80     89     88     88     89       88     88     88     89       89     88     88     89       80     88     88     89       80     20     2017     2018     2019       2013     2014     2015     2016     2017     2018     2019       30.35     31.98     30.83     32.91     39.23     35.30     43.19       24.33     7.19     -1.72     8.88     21.38     -7.89     24.98       1002     2.31     0.07     0.31     6.72     -3.13     5.95       1.84     2.45     1.62     -2.03     0.43     0.68     -0.07       36     16     53     27     48     37     51       130     156     238     193     206     221     229	Section   Sect	H	The color of the

0.52	3.7	★ Real Estate			\$mil	llen
0.96	ices 15.5	Financial Services	_	53720 1.49	Geo Avg Mkt Cap	JS I
1.05	lical 11.3	Consumer Cyclical	8 0.95	2.1 1.0	P/B Ratio TTM	PiM
0.92	4.8	Basic Materials	1 0.95	10.4 1.0	P/C Ratio TTM	рбјеј
0.90	35.3	ე⊾ Cyclical	a car	Avg Index 13.7 1.04	P/F Ratio TTM	Value Blend Growth
Rel Std Index	Stocks %	Sector Weightings	. B.		Portfolio Statistics	Equity Style
3.16	34 mil Vanguard Total Intl Bd II Idx Insl	34 mil	2.07	102.07	100.00	Total
7.01	Vanguard Total Bond Market II Idx	⊕ 208 mil	0.00	0.14	0.14	Other/Not Clsfd
35.68	Vanguard Total Intl Stock Index Inv		0.00	9.94	9.93	Bonds
51.78	Vanguard Total Stock Mkr ldx Insti		0.00	34.81	34.81	Non-US Stocks
20 70	Vanetand Tatal Stadt Mit Ida land	00	0.00	52.09	52.09	US Stocks
%	11,264 Turnover Ratio	ng_2022	2.07	5.08	3.02	Cash
Net Assets	Holdings:	Chg Share	Short %	Long %	Net %	Asset Allocation %
					s 09-30-2022	Portfolio Analysis 09-30-202

Fixed-Income Style			A Sellet
Itd Mod Ext	Avg Eff Maturity	8.93	<b>⊞</b> Commu
		6.98	Energy
u		2.29	industr
рауу	Avg Wtd Price		Techno
MOT			→ Defens
			Consun
Credit Quality Breakdown 08-31-2022	akdown 08-31-2022	Bond %	
AAA		56.36	
AA		10.03	Othitle
A		17.40	
BBB		15.39	
BB		0.00	
,		,	

Rel Std Index
0.90
0.92
1.05
0.96
0.52
1.16
1.20
0.96
0.98
1.35
0.93
0.92
0.96
0.85

. 7	USD	Purchase Constraints:	
	VFFVX	Incept:	08-18-2010
	US92202E8479	Type:	MF
al Purchase: \$1,000	\$1,000	Total Assets:	\$27,570.03 mil

Manager:

Tenure:

9.7 Years Multiple

Ticker: Base Currency: Greater Europe Greater Asia

64.1 16.9 19.0

1.04 0.95 0.93

Rel Std Index

0.48 0.34 0.00

Americas Regional Exposure Below B NR

Asset Allocation

Minimum Initia ISIN:

Objective:

-	$\leq$
•	$\supset$
	<u>ノ</u>
•	₹
-	arrowset
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•	@

## **2060 Fund (USD)** Vanguard Target Retirement

Performance 09-30-2022	-30-2022				
Quarterly Returns	1st Otr	2nd Otr	3rd Otr	4th Otr	Total %
2020	-19.86	18.61	7.39	13.96	16.32
2021	4.54	6.61	<u>-1</u>	5.66	16.44
2022	-5.68	-14.19	-6.64	1	-24.44
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-20.16	3.40	4.38	7.58	7.91
Std 09-30-2022	-20.16	1	4.38	7.58	7.91
Total Return	-20.16	3.40	4.38	7.58	7.91
+/- Std Index	-1.96	2.26	1.44	2.41	
+/- Cat Index	1.01	1.37	0.90	0.93	
% Rank Cat	37	42	41	_	
No. in Cat	217	185	149	_	

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

Ivialiagellietti ees /o			0.0
12b1 Expense %			₹
Net Expense Ratio %			0.0
Gross Expense Ratio %			0.0
Risk and Return Profile			
	3 Yr	5Yr	10 Y
	185 funds	149 funds	1 fund
Morningstar Rating™	<b>4</b> <b>★</b>	<b>4★</b>	ı
Morningstar Risk	-Avg	-Avg	ı
Morningstar Return	Avg	Avg	1
	3 Yr	5Yr	10 Y
Standard Deviation	17.99	15.84	12.7
Mean	3.40	4.38	7.5
Sharpe Ratio	0.24	0.27	0.5
MPT Statistics	Standard Index		Best Fit Inde MSCI ACWI NI

			<b>4★</b>	*	4*	ing	Morningstar Rating <sup>™</sup>
	L	1 funds	149 funds		185 funds		
		10 Yr	5 Yr	≍	3 Yr		
						1 Profile	<b>Risk and Return Profile</b>
Mod Ext	E	0.08				Ratio %	Gross Expense Ratio %
Fixed-Income S	Fixed-	0.08				atio %	Net Expense Ratio %
L		NA					12b1 Expense %
		0.00				es %	Management Fees %
							Fund Expenses
		N N				%	Deferred Load %
Blend Growth	Value	¥				%	Front-End Load %
Style	Fauity Style						Sales Charges
	Total					enses	Fees and Expenses
Other/Not Cls	Other,	ard.com.	w.vangua	visit ww	2-7447 or	call 800-66	month-end, please call 800-662-7447 or visit www.vanguard.com
0,	Bonds	ecent	ie most r	rent to th	e data cur	performanc	quoted herein. For performance data current to the most recent
Non-US Stock	Non-L	ata	ı return d	aher thai	ower or hi	n ad vew er	Current performance may be lower or higher than return data
ocks	US Stocks	os tildii	iore or res	WOLUT III	u, may be	oi reaeaire	shares, when soid of redeemed, may be worth more or less than their original cost
0000	Cash	estors s	iora or las	cuate; u	ת שפע אם	n invesime	principal value of an investment will fluctuate; thus an investor s shares when sold or redeemed, may be worth more or less than
Asset Allocation	Asset	and	nt retum a	rvestmer	ults. The ir	tuture resu	does not guarantee tuture results. The investment return and
Portfolio Ana	Portf	e and	rformanc	s past pe	represents	ata quoted	The performance data quoted represents past performance and
	1	,	!		trics.	ingstar me	(if applicable) Morningstar metrics.
1 1		returns, 10-vear	edjusted i	' on risk-i three- fi	g is based	<b>Iosure</b> Igstar Ratin Inted avera	<b>Performance Discrosure</b> The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-five-and 10-years.
						anna a	Portomana Dica
	ı	2.39		2.59	. •	10-24-22	30-day SEC Yield 10-24-22
1 2	I						7-day Yield
21 81		Unsubsidized	Unsı	Subsidized	Sut		
1 2012	2011		_	149	185	217	No. in Cat
			_	41	42	37	% Rank Cat
		1	0.93	0.90	1.37	1.01	+/- Cat Index
		I	2.41	1.44	2.26	-1.96	+/- Std Index
~		7.91	7.58	4.38	3.40	-20.16	Total Return
		7.91	7.58	4.38		-20.16	Std 09-30-2022
		7.91	7.58	4.38	3.40	-20.16	Load-adj Mthly
		Incept	10 Yr	5 Yr	3 Yr	1Yr	Trailing Returns
-	:	11.11				0.00	1001

				-
arges			2	ᄪ
ed Load %			N i	Va.
enses				
ment Fees %			0.00	
pense %			NA	
pense Ratio %			0.08	<b>9</b>
expense Ratio %			0.08	= =
nd Return Profile				
	3 Yr	5Yr	10 Yr	Т
	185 funds	149 funds	1 funds	
ystar Rating™	4 <b>★</b>	<b>4</b>	1	
ystar Risk	-Avg	-Avg		ΙГ
ystar Return	Avg	Avg		č

4★ Avg Avg	-Avg Avg		Credit Q	wality B	Credit Quality Breakdown 08-31-2022	.022
3 Yr '.99	5 Yr 15.84	10 Yr 12.75	P & &			
8.40 1.24	4.38 0.27	7.58 0.58	BB BB			
ard Index	Best MSCI	Best Fit Index MSCI ACWI NR USD -0.23	Below B NR	В		
1.35		0.93	Regional Exposure	ıl Exposi	ure	Stocks %
0		2.46%	Greater Europe	r Europe	Ф	16.9
		17.41%	Greater Asia	r Asia		19.0

Alpha Beta

R-Squared

12-Month Yield Potential Cap Gains Exp

	Morningstar Analyst Rating™ Overall Morningstar Rating™ Standard Index  \$\overline{\text{3}\text{Silver}}\$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
	ingstar Rating™ ¯arget-Date	
	0	
Investmen	Category Index Morningstar Lifetime Mod 2060 TR USD	

Morningstar Cat

	: '										: :	: :		_
	1	ı	1		21.81	2012							89	
_	_	2.17	10.04	24.35	26.75	2013							88	
9	_	2.63	2.27	7.16	28.20	2014							88	
43	71	1.80	0.11	-1.68	27.21	2015							89	
106	21	-2.03	0.27	8.84	29.04	2016			1				88	2060
160	ឌ	0.30	6.70	21.36	34.63	2017			$\setminus$				88	-
201	34	0.82	<u>ن</u> د 1	-7.87	31.18	2018							88	
216	66	0.00	5.93	24.96	38.16	2019			}				89	_
257	42	3.43	3.50	16.32	43.59	2020			1	, \			91	-
208	<u>~</u>	0.12	6.25	16.44	48.04	2021				1			86	_
218	1	0.53	-3.52	-24.44	36.30	09-22		4 <del>k</del> lox	20k	<b>\$</b>	60 <sub>K</sub>		85	TR USD
No. of Funds in Cat	% Rank Cat	+/- Category Index	+/- Standard Index	Total Return %	NAV/Price	History	Performance Quartile (within category)	17,624	<ul><li>Category Average</li><li>21,924</li><li>Standard Index</li></ul>	2060 Fund 22,444	Growth of \$10,000 Vanguard Target Retire		Investment Style Equity Stocks %	

	3   43   100   100   201   210   237   200   210		5	701	10   23/	700   210	No. of Fullus III Car	
folio Analys	folio Analysis 09-30-2022							
Allocation %	Net % 2.97		Short % 2.08	Share Chg since	Share Amount	Share Holdings : Amount 11,269 Total Stocks , 15,484 Total Fixed-Income,	.84 Total Fixed-Income,	Net Assets %
tocks	52.05	52.05	0.00	) 00 2022		V- Tallove Hado		100
US Stocks	34.93	34.93	0.00	•	44 mil	44 mil Vanguard lotal Stock Mkt ldx insti	K IVIKT IOX INSTI	52./4
S	9.90	9.91	0.00	<b>(</b>	333 mil	333 mil Vanguard Total Intl Stock Index Inv	stock Index Inv	35.80
/Not Clsfd	0.14	0.14	0.00	•	103 mil	103 mil Vanguard Total Bond Market II ldx	Market II ldx	6.96
	100.00	102.08	2.08	1	17 mil	17 mil Vanguard lotal Intl Bd II ldx Insl	3d II Idx Insi	ى 13
Style	Portfolio Statistics	Port Rel	e Rel	Sector Weightings	eightings		Stocks %	Rel Std Index
Blend Growth		Avg Inde	ix Cat	າ⊾ Cyclical	2		37.53	0.90

							Š.		
	llen	S	bil	Ν	ebu	eη			
	\$mil	Geo Avg Mkt Cap	-/	P/R Ratio TTM	P/C Ratio TTM	P/E Katio I IM		Portfolio Statistics	
		53641		21	10.3	13./	Avg	Port	
		1.49		1 08	1.01	1.04	Index	Rel	
		0.92		0 93	0.95	0.95	G G at	Re	
ί	 Đ	Ţ	,	Þ	E	•	ş	Sec	
/ DISTING	Real Esta:	FILIGICIAL	7	Consumer	Dasic Ivia		Cyclical	Sector Weightin	

y Breakdown 08-31-2022	мод	Avg Wtd Price		Avg Eff Duration	Ext Avg Eff Maturity	e Style	
Bond % 56.26 10.08		1	2.29	6.99	8.93		
	Į i		Ċ.	9	#0	<b> </b> {	

	baM	Avg Wtd Price	I
	MOη		
lity Br	eakd	lity Breakdown 08-31-2022	Bond %
			56.26
			10.08
			17.43
			15.40
			0.00
			0.00
			0.48
			0.34
xposure	ē	Stocks %	Rel Std Index
		64.1	1.04
mone		16 q	

VTTSX US9Z20ZE8396 \$1,000	USD	19.0	10.9
Incept: Type: Total Assets:	Purchase Constraints:	0.93	0.95

Manager: Family:

Multiple 9.7 Years Asset Allocation

> Ticker: ISIN:

Base Currency:

Minimum Initial Purchase:

Vanguard

Tenure:

Objective:

∷: 88 ⊞ 80 S	Fund Ta	*** 5 US Fund Target-Date 50 88 88 88	89	Morningstar Mo Tgt Risk TR USD	Morningstar Mod Tgt Risk TR USD		Morningstar US Fund Target-Date Lifetime Mod 2060 2060 TR USD TR USD Investment Style Equity Stocks % Stocks % Equity Stocks %
	\\			N.		- 20k	
							Performance Quartile (within category)
	2017	2018	2019	2020	2021	09-22	History
9.04	34.63	31.18	38.16	43.59	48.04	36.30	NAV/Price
3.84 1.27	21.36 6.70	-7.87 -3.11	24.96 5.93	16.32	16.44 6.25	-24.44 -3.52	Total Return % +/- Standard Index
03	0.30	0.82	0.00	3.43	0.12	0.53	+/- Category Index
21	យ	34	66	42	82	1	% Rank Cat
106	160	201	216	257	208	218	

Sector Weightings	Stocks %	Rel Std Index
Դ Cyclical	35.3	0.90
Basic Materials	4.8	0.92
Consumer Cyclical	11.3	1.05
Financial Services	15.5	0.96
★ Real Estate	3.7	0.52
∨ Sensitive	42.1	1.16
Communication Services	7.0	1.20
★ Energy	5.2	0.96
<b>⇔</b> Industrials	10.9	0.98
Technology	19.0	1.35
→ Defensive	22.6	0.93
Consumer Defensive	7.2	0.92
◆ Healthcare	12.2	0.96
Utilities	3.2	0.85

Total Assets:	Туре:	Incept:	Purchase Constraints:
\$13,679.56 mil	MF	01-19-2012	I

Release date 09-30-202	2022																		
Vanguard Target Retirement	<u>₹</u>	ם ב	₽ ₽	<u> </u>	<b>5</b>		Morningstar Analyst Rating™ Overall Morningstar Rating™ Standard Index	ystar Ar	alyst Ra	ıting™ (	)verall N	Norning	star Rati	ng™ S	tandard	Index	Categ	ory Index	Category Index Morningstar Cat
Valigua	2	S P	. כו	9	9		AIIS 🔚	₽,		<b>.</b>	***			~	Morningstar Mod	tar Mod	Morni	Morningstar	US Fund Target-Date
2065 Fund (USD	1 (1		=				02-24-2022	22		(1)	36 US Fund Target-Date	nd Targe	t-Date	_	Tgt Risk TR USD		Lifetin	20	2065+
1	1									<b>N</b>	2065+						TR USD	D	
Performance 09-30-2022	0-2022														H			Investm	Investment Style
Quarterly Returns	1st Qtr 2nd Qtr 3rd Qtr 4th Qtr Total %	nd Otr	3rd Qtr	4th Otr	Total %	1	ı		1	1	1	88	88	88	9	88	85 [	Equity Stocks %	X.
2020 -	-19.92	18.59	7.36	13.95	16.17	:											1	:-100k	/6
2021	4.55	6.61	-1.11	5.66 16.46	16.46												, and a		Growth of \$10,000
2022	-5.63 -14.20 -6.60	14.20	-6.60		-24.38													ī	<ul> <li>Vanguard Target Retirement</li> </ul>
																	4Uk		35 Fund
			5 Yr	10 Yr	Incept													12,	12,679
Load-adj Mthly -	-20.10	3.38	4.36		4.95			-				-		-			2	R Ca	— Category Average

Unsubsidized	Unsı	Subsidized	Sı		7 J. W. II
		00	36	160	No. in Cat
	ı	68	띩	24	% Rank Cat
1		0.88	1.35	1.08	+/- Cat Index
1		1.42	2.24	-1.90	+/- Std Index
4.95		4.36	3.38	-20.10	Total Return
4.95	I	4.36	I	-20.10	Std 09-30-2022
4.95		4.36	3.38	-20.10	Load-adj Mthly
Incept	10 Yr	5 Yr	3 Yr	1 Yr	Trailing Returns
-24.38	1	-6.60	-14.20	-5.63	2022
16.46	5.66	-1.11	6.61	4.55	2021
16.17	13.95	7.36	18.59	-19.92	2020
Total %	4th Qtr	3rd Qtr	2nd Otr	1st Otr	Quarterly Returns

7-day Yield 30-day SEC Yield 09-30-22	2.59	2.39
30-day SEC Yield 09-30-22	2.59	2.39
Performance Disclosure		
The Overall Morningstar Rating is based on risk-adjusted returns,	ased on risk-adjust	ed returns,
derived from a weighted average of the three-, five-, and 10-year	the three-, five-, as	nd 10-year

principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than (if applicable) Morningstar metrics.

The performance data quoted represents past performance and does not guarantee future results. The investment return and their original cost.

Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-and places and 1800 682 7MT or visit manufactured for

Front-End Load %	Sales Charges	Fees and Expenses	month-end, please call 800-662-7447 or visit www.vanguard.com
N			or visit www.vanguard.com

Sales Charges Front-End Load %			N N
Deferred Load %			N
Fund Expenses			
Management Fees %			0.00
12b1 Expense %			NA
Net Expense Ratio % Gross Expense Ratio %			0.08
Risk and Return Profile			
	3 Υ	5 Yr	10 Yr

Gross Expense Ratio %			2
<b>Risk and Return Profile</b>			
	3 Υ	5Yr	10
	36 funds	8 funds	
Morningstar Rating™	3 <b>⊁</b>		
Morningstar Risk	-Avg		
Morningstar Return	Avg		
	3 Yr	5Yr	10
Standard Deviation	18.01	15.86	
Mean	3.38	4.36	
Sharpe Ratio	0.24	0.27	
MPT Statistics	Standard Index	~	Best Fit Ind
Alpha	2.46		-0.2
Beta	1.36		0.0

		M. F.	
		Vanguard	Family: Va
			Operations
13.18%			Potential Cap Gains Exp
2.24%			12-Month Yield
99.65		98.78	R-Squared
0.93		1.36	Beta
-0.25		2.46	Alpha
USD			
Best Fit Index MSCI ACWI NR	Best MSCI	Standard Index	MPT Statistics
	0.27	0.24	Sharpe Ratio
	4.36	3.38	Mean
	15.86	18.01	Standard Deviation
10 Yr	5 Yr	3 Yr	
		Avg	Morningstar Return
		-Avg	Morningstar Risk
		3 <b>★</b>	Morningstar Rating™
	8 funds	36 funds	
10 Yr	5Yr	3 Yr	

								:		:	:		:	:	: :			
	1		I			2011												_
	1	l	1		1	2012										I		02-24-2022
ī	ı	ı				2013										1		022
1	ı	ı				2014										1		
1	1	ı				2015												
1	1				_	2016												36 US F 2065+
	1				21.70	2017				\						88		36 US Fund Target-Date 2065+
16	25	0.75	-3.19	-7.95	19.61	2018										88		get-Date
17	79	0.00	5.94	24.96	24.05	2019				}						89		
55	ස	3.28	3.35	16.17	27.50	2020				1						90		I gt HISK
134	76	0.13	6.26	16.46	31.42	2021				Ŋ	<u>}</u>					86		I GT KISK I K USD
162	1	0.59	-3.47	-24.38	23.76	09-22		4 <sub>K</sub>	Ş	<b>3</b>	20k		40k	60k	100k	85		
No. of Funds in Cat	% Rank Cat	+/- Category Index	+/- Standard Index	Total Return %	NAV/Price	History	Performance Quartile (within category)		11,755	Standard Index	— Category Average	12,679	2065 Fund	Vanguard Target Retirement	Crowth of \$10 000	Stocks %	Investment Style Equity	TR USD

Portfolio Analysis 09-30-2023	- na 20 2022						
Asset Allocation %	Net %	Long %	Short %	Share Chg	Share	Holdings:	Net A:
Cash	2.97		2.07		Amount	11,269 Total Stocks, 15,453 Total Fixed-Income,	
US Stocks	52.11	52.11	0.00	7707-90		3% lumover hauo	!
Non-US Stocks	34.92	34.92	0.00	•	IIM DI	Vanguard Total Stock Mkt Idx Insti	Į.
Bonds	9.86	9.86	0.00	<b>⊕</b>	76 mil	Vanguard Total Intl Stock Index Inv	ပ္သ
Other/Not Clsfd	0.14	0.14	0.00	<b>①</b>	23 mil	23 mil Vanguard Total Bond Market II ldx	_
Total	100.00	102.08	2.08	1	4 mil	4 mil Vanguard Total Intl Bd II Idx Insl	
Equity Style	Portfolio Statistics	Port Rel	Rel	Sector Weightings	htings	Stocks %	Rel Std I
Value Blend Growth	P/F Ratio TTM	Avg Index 13.7 1.04		Դ Cyclical	a	35.3	
Гэгде	P/C Ratio TTM			Basic Materials	∕lateria	ls 4.8	_
iΜ	P/B Ratio TTM	2.1 1.08	0.96	Consumer Cyclical	ner Cyc	lical 11.3	
S I	à	53668 1.49	0.96	Financi	Financial Services	ices 15.5	_
llem	\$mil			Real Estate	state	3.7	_

				Ltd Mod Ext	Fixed-Income Style	
Гом	Avg Wtd Price		Avg Eff Duration	Avg Eff Maturity	ਰ	\$mil
	. !	2	6.	.8		
		2.28	6.99	8.93	_	

Below B 0.48 NR 0.34	BB 0.00 B 0.00	BBB 15.41		AAA 56.21	Credit Quality Breakdown 08-31-2022 Bond %	MOT	Avg Wtd Price	
.34	88	4 4	10	.21	М %			

Bond % 56.21 10.10 17.45	8.93 6.99 2.28	Hel Rel Cat 0.98 0.98 0.96 19 0.96	Short % 2.07 0.00 0.00 0.00 0.00 2.08
→ Defensive ☐ Consumer ☐ Healthcare ☐ Utilities	Sensitive Communic Energy Industrials Technolog	Cyclical  Cyclical  Basic Mater  Consumer C  Financial Se  Real Estate	Share Chg since 08-2022
<b>Defensive</b> Consumer Defensive Healthcare Utilities	Sensitive Communicatio Communicatio Inergy Industrials Industrials	or Weightings Cyclical Basic Materials Consumer Cyclical Financial Services Financial Estate	Share Amount 10 mil 76 mil 23 mil 4 mil
ensive	Sensitive Communication Services Energy Industrials Technology	ls lical ices	Holdings: 11,289 Total Stocks , 15,453 Total Fixed-Income, 3% Tumover Ratio Vanguard Total Stock Mkt Idx Instl Vanguard Total Intl Stock Index Inv Vanguard Total Bond Market II Idx Vanguard Total Intl Bd II Idx Insl
<b>22.6</b> 7.2 12.2 3.2	<b>42.1</b> 7.0 5.2 10.9 19.0	Stocks % <b>35.3</b> 4.8  11.3  15.5  3.7	53 Total Fixed-Income, k Mkt Idx Instl Stock Index Inv I Market II Idx
<b>0.93</b> 0.92 0.96 0.85	1.16 1.20 0.96 0.98 1.35	Rel Std Index <b>0.90</b> 0.92 1.05 0.96 0.52	Net Assets % 52.80 35.79 6.92 3.17

Minimum Initial Purchase:	ISIN:	Ticker:	Base Currency:	
\$1,000	US92202E6804	VLXVX	USD	
Total Assets:	Туре:	Incept:	Purchase Constraints:	
\$3,133.08 mil	MF	07-12-2017		

Objective: Manager:

Asset Allocation 5.3 Years

Tenure:

Multiple Vanguard

Greater Europe Greater Asia

64.1 16.9 19.0

1.04 0.95 0.93

Americas Regional Exposure

Stocks %

Rel Std Index

#### Vanguard Target Retirement Performance 09-30-2022 ncome Fund (USD) 83 Morningstar Mod Tgt Risk TR USD Standard Index Lifetime Mod Incm Morningstar Category Index Retirement US Fund Target-Date **Morningstar Cat**

Quarterly Returns	1st Otr	2nd Otr	3rd Otr	4th Otr	Total %
2020	-5.91	7.84	3.12	5.15	10.02
2021	0.08	3.23	-0.13	2.01	5.25
2022	-4.77	-7.37	-4.64		-15.89
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-14.19	-0.02	1.96	3.31	4.43
Std 09-30-2022	-14.19		1.96	3.31	4.43
Total Return	-14.19	-0.02	1.96	3.31	4.43
+/- Std Index	4.01	-1.16	-0.98	-1.85	I
+/- Cat Index	0.08	-0.87	-0.45	-0.03	
% Rank Cat	49	<u> </u>	27	36	
No. in Cat	160	144	121	80	
		,		:	

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year 30-day SEC Yield 10-24-22 7-day Yield Performance Disclosure Subsidized 2.55 Unsubsidized 2.76

> 11.53 5.25 2011

4.66

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. does not guarantee future results. The investment return and The performance data quoted represents past performance and

Portfolio Analysis 09-30-2022

(if applicable) Morningstar metrics.

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

Sales Charges Front-End Load % Deferred Load %	N N
Fund Expenses	
Management Fees %	0.00
12b1 Expense %	NA
Net Expense Ratio %	0.08
Cross Evnansa Datio %	200

			Omerations
27.65%			Potential Cap Gains Exp
2.97%			12-Month Yield
98.82	_	94.81	R-Squared
0.83	U	0.60	Beta
-0.61	01	-1.15	Alpha
Mod Con Tgt Alloc NR USD	Mod		
Best Fit Index Morningstar US	≤	Standard Index	MPT Statistics
1 0.50	0.14	-0.04	Sharpe Ratio
3.31	1.96	-0.02	Mean
5.40	6.82	8.10	Standard Deviation
r 10 Yr	5 Yr	3 Yr	
g Avg	+Avg	+Avg	Morningstar Return
g Avg	Avg	Avg	Morningstar Risk
4*	4⊁	<b>4★</b>	Morningstar Rating™
r 10 Yr s 80 funds	5 Yr 121 funds	3 Yr 144 funds 1	!
			<b>Risk and Return Profile</b>
0.08			Gross Expense Ratio %
0.08			Net Expense Ratio %
NA			12b1 Expense %
0.00			Management Fees %
			Fund Expenses

Portfolio Analysis 09-30-2022	09-30-2022			
Asset Allocation %	Net %	Long %	Short %	Share Ch
Cash	2.38	12.86	10.48	since
US Stocks	16.68	16.68	0.00	7707-00
Non-US Stocks	11.20	11.20	0.00	1
Bonds	69.14	69.16	0.02	1
Other/Not Clsfd	0.60	0.60	0.00	•
Total	100.00	110.50	10.50	Ð (I)
Equity Style	Portfolio Statistics		e Rel	
Value Blend Growth	P/E Ratio TTM	13.7 1.04	0	Sector V
эбля	P/C Ratio TTM			ک خ
PiM	P/B Ratio TTM		0.99	В
-	Geo Avg Mkt Cap	53639 1.49	19 0.98	9
ller	\$mil			<b>1</b> .

d Image Ctu	<b>.</b>	
a moonio otyro		1
Mod Ext	Avg Ett Maturity	1.3/
	Avg Eff Duration	5.89
	Avg Wtd Price	93.55
	мот	
lit Quality Bre	lit Quality Breakdown 08-31-2022	Bond %
12		67.33
		7 4

Geo Avg Mkt Cap 53639 1.49 0.98		uality				od Ext	come Style			l
Cap 53639 1.49 0.88  ity 7.37 on 5.89 on 1.83 9 93.55 Bond % 67.33 7.45 13.02		Break	Fow	bəM	цбі		Style	l	llsm2	l
7 37 5 89 1 83 93.55 Bond % 67.33 7.45 13.02		down 08-31-2022		Avg Wtd Price	Avg Wtd Coupon	Avg Eff Duration			\$mil	
7.37 5.89 1.83 93.55 Bond % 67.33 7.45 13.02									2002	1000
		В.							.43	2
	67.33 7.45 13.02	ond %		93.55	83	5.89	l		0.30	
		1 t		۵۱	2	<b>**</b>	E	2	<b>a</b> [	1

	мор	
Credit Quality Br	Credit Quality Breakdown 08-31-2022	Bond %
AAA		67.33
AA		7.45
Þ		13.02
BBB		11.57
BB		0.00
C		0.00
Below B		0.35
NR		0.28
Regional Exposure	re Stocks %	Rel Std Index
Americas	64.1	1.04
Greater Europe	16.9	0.95
Greater Asia	19.0	0.93

0.90	35.3	Դ Cyclical
Rel Std Index	Stocks %	Sector Weightings
11.47	285 mil Vanguard Total Intl Stock Index Inv	⊕ 285 mil
16.25	232 mil Vanguard Total Intl Bd II Idx Insl	<ul> <li>232 mil</li> </ul>
16.90	38 mil Vanguard Total Stock Mkt Idx Instl	⊕ 38 mil
17.06	Vanguard Shrt-Term Infl-Prot Sec I	<ul> <li>263 mil</li> </ul>
37.05	Vanguard Total Bond Market II ldx	<ul> <li>1,458 mil</li> </ul>
%	10,108 Total Stocks , 18,875 Total Fixed-Income, 6% Turnover Ratio	since Amount 08-2022
Net Assets	Holdings:	Share Chg Share

ctor Weightings	Stocks %	Rel Std Index
Cyclical	35.3	0.90
Basic Materials	4.8	0.92
Consumer Cyclical	11.3	1.05
Financial Services	15.5	0.96
Real Estate	3.7	0.52
Sensitive	42.1	1.16
Communication Services	7.0	1.20
Energy	5.2	0.96
Industrials	10.9	0.98
Technology	19.0	1.35
► Defensive	22.6	0.93
Consumer Defensive	7.2	0.92
Healthcare	12.2	0.96
Utilities	3.2	0.85

Minimum Initial Purchase:	ISIN:	Ticker:	Base Currency:	
	US92202E1029	VTINX	USD	
Total Assets:	Type:	Incept:	Purchase Constraints:	
\$36,518.22	ΜF	10-27-2003		

<u>∃</u>.

Objective: Manager: Family:

Asset Allocation

Tenure:

Multiple 9.7 Years Vanguard Operations

#### index I (USD) 06-30-2022 95 Core Bond 401 US Fund Intermediate Standard Index Agg Bond TR USD Bloomberg US 97 Bloomberg US Agg Bond TR USD Category Index Investment Style Fixed-Income Bond % **US Fund Intermediate** Core Bond **Morningstar Cat**

98

97

93

98

98

99

97

97

99

98

60 × 100 100 × 100

Growth of \$10,000

Vanguard Total Bond Market

4

. 20k

Category Average 12,184

2

12,254 Standard Index

Performance U9-3U-ZUZZ	-30-2022				
Quarterly Returns	1st Otr	2nd Otr	3rd Qtr	4th Otr	Total %
2020	3.28	2.98	0.62	0.67	7.74
2021	-3.61	2.00	0.11	-0.08	-1.65
2022	-5.98	-4.71	-4.65		-14.58
Trailing Returns	1 Yr	3 Yr	5 Yr	10 Yr	Incept
Load-adj Mthly	-14.65	-3.26	-0.24	0.86	4.20
Std 09-30-2022	-14.65		-0.24	0.86	4.20
Total Return	-14.65	-3.26	-0.24	0.86	4.20
+/- Std Index	-0.05	0.00	0.03	-0.03	I
+/- Cat Index	-0.05	0.00	0.03	-0.03	
% Rank Cat	38	46	33	39	
No. in Cat	445	401	363	269	

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year 30-day SEC Yield 10-24-22 7-day Yield Performance Disclosure 4.43 3.98

Subsidized

Unsubsidized

11.00 7.72

11.09

10.56

10.87 -0.06 5.90

10.65 -0.04 2.61

10.64 0.41

10.75 3.57

11.05 8.73

11.19 -1.65

-14.58

11.62

NAV/Price History

10.45 -0.01 -0.02 -0.02

2011

2012

2013

2014

2015

2016

2017

2018

2019

2020

2021

4

Performance Quartile (within category)

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. does not guarantee future results. The investment return and The performance data quoted represents past performance and

(if applicable) Morningstar metrics.

month-end, please call 888-809-8102 or visit www.vanguard.com quoted herein. For performance data current to the most recent Current performance may be lower or higher than return data

Bonds

-0.12 -0.12

-0.03 -0.03 4.18

-0.11 -0.11 -2.14

-0.06

-0.14

-0.04

0.03 0.03

0.01 0.01

0.23

-0.11 -0.11

0.03 0.03 9.39

5

50

% Rank Cat

0.23 7.74

+/- Standard Index Total Return %

+/- Category Index

-0.14

8

67

Total Other/Not Clsfd

100.00 98.06 1.14

quity Style

**Portfolio Statistics** 

NA	Deferred Load %
NA	Front-End Load %
	Sales Charges
	rees dilu Expelises

Fund Expenses

Fixed-Income Style

Small biM

Geo Avg Mkt Cap \$mil

P/E Ratio TTM P/C Ratio TTM P/B Ratio TTM

ЧбіН baM

Avg Eff Maturity
Avg Eff Duration
Avg Wtd Coupon

Avg Wtd Price

		K
		9. 29.
		0.Q4
		10 Yr 269 funds
		3⊁
Avg	Avg	Avg
	Avg	Avg
3 Yr	5 Yr	10 Yr
5.39	4.81	3.99
-3.26 -1	0.24	0.86
-0.70 -1	0.27	0.06
Standard Index E	Best Fit Index Bomberg US Agg Bond TR USD	t Index JS Agg
0.01		0.01
1.00		1.00
99.61		99.61
	2	2.41%
		5 Yr 233 funds 2 2 4 * Avg Avg +Avg -0.27 Best Bloomberg Bonc

₽

Credit Quality Breakdown 09-30-2022 AAA

BB BB

13.97 0.00

Sensitive

₹ **Ð Ð Þ** Þ

Real Estate

Below B

1195	1165	1079	1195   1165   1079   1038   1042	1042	985	986	986   1019   430   415	430	415	423	454	No. of Funds in Cat
Portfolio Analysis 09-30-2022	o Analy:	sis 09-30	)-2022									
Asset Allocation %	cation %	•	_		Long %	Short %				Holdings:		
Cash				0.80	0.80	0.00	SINCE OB 2022		Amount	0 Turno	cks , 15,U	U Total Stocks , 15,089 Total Fixed-Income,
US Stocks	S				0.00	0.00			<u>.</u>	Ulland Individual of St.	vei nauo	0 770
Non-US Stock:	Stocks				0.00	0.00		1,9	IIM 75	United Si	lates ir	,932 mil United States Treasury Notes U./5%
0000					00 10	7 0 0		7	S) Mil	United S	tates Tr	552 mil United States Treasury Notes 2 875%

	11.75	2.97	71 22	Don't 0/		88.94		6.50 6.57	00 g				1	1	Port Hel Hel Avg Index Cat		100.07 0.07			0.00 0.00	0.00	<u>o</u>	
Real Fetate	Financial Services	Consumer Cyclical	Basic Materials	∿ Cyclical	Sector Weightings	1,106 mil	1,088 mil	1,326 mil	⊕ 1,387 mil	1,309 mil	1,230 mil	⊕ 1,378 mil	1,447 mil	1,304 mil	⊕ 1,383 mil	1,536 mil	1,658 mil	<ul> <li>1,520 mil</li> </ul>	1,552 mil	1,932 mil	122	⊳	Share Chn Share
	rices —	clical —	als –	I	Stocks %	United States Treasury Notes 2.125%	United States Treasury Notes 3%	United States Treasury Notes 1.625%	United States Treasury Notes 1.375%	United States Treasury Notes 1.5%	United States Treasury Notes 1.5%	United States Treasury Notes 1.875%	United States Treasury Notes 1.25%	United States Treasury Notes 2%	United States Treasury Notes 2.75%	United States Treasury Notes 1.25%	United States Treasury Notes 0.875%	United States Treasury Notes 2%	United States Treasury Notes 2.875%	United States Treasury Notes 0.75%	69% Turnover Ratio	0 Total Stocks , 15,089 Total Fixed-Income,	Holdings :
	I		1	1	Rel Std Index	0.39	0.39	0.41	0.42	0.42	0.43	0.43	0.43	0.46	0.47	0.49	0.49	0.53	0.53	0.63		%	Net Assets

			7 111011040		)	
12-Month Yield		2.41%	Greater Europe		Consumer Detensive	I
Potential Can Gains Exn	Fxn	2 82%	Greater Asia	l	■ Healthcare	1
- ordinal dab dalli	5	7.02.70			Utilities	1
Operations						
Family:	Vanguard		Base Currency:	USD	Purchase Constraints:	
Manager:	Joshua Barrickman		Ticker:	VBTIX	Incept:	09-18-1995
Tenure:	9.7 Years		ISIN:	US9219375048	Туре:	MF
Objective:	Income		Minimum Initial Purchase:	\$5 mil	Total Assets:	\$78,483.15 mil

Americas Regional Exposure

Rel Std Index

Defensive Technology 0.00 0.00

Industrials

Energy

Communication Services

## Vanguard Total Intl Stock ndex I (USD)

	1	2	3		0.000
	419	610	701	750	No in Cat
	48	38	<u> </u>	40	% Rank Cat
	0.33	0.14	0.37	-0.04	+/- Cat Index
	0.33	0.14	0.37	-0.04	+/- Std Index
2.94	3.33	-0.68	-1.15	-25.20	Total Return
2.94	3.33	-0.68	I	-25.20	Std 09-30-2022
2.94	3.33	-0.68	-1.15	-25.20	Load-adj Mthly
Incept	10 Yr	5 Yr	3 Yr	1 Yr	Trailing Returns
-26.76		-10.52	-12.85	-6.07	2022
8.68	2.12	-3.00	5.53	3.95	2021
11.28	16.89	6.48	18.12	-24.31	2020
Total %	4th Otr	3rd Otr	2nd Otr	1st Otr	Quarterly Returns
				1-30-2022	Performance 09-30-2022

Performance Disclosure
The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year 30-day SEC Yield 7-day Yield

Subsidized

Unsubsidized

87.32

2011

-14.51

-0.80 -0.80

817 60

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. The performance data quoted represents past performance and

(if applicable) Morningstar metrics.

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

#### Front-End Load % Sales Charges Deferred Load % Fees and Expenses

Σ Z

Risk and Return Profile	Gross Expense Ratio %	Net Expense Ratio %	12b1 Expense %	Management Fees %	rullu expelises
	0.08	0.08	NA	0.07	

12-Month Yield Potential Cap Gains Exp	R-Squared	Alpha	MPT Statistics	Sharpe Ratio	Mean	Standard Deviation		Morningstar Return	Morningstar Risk	Morningstar Rating™		Risk and Return Profile
	98.88	0.47	Standard Index	0.00	-1.15	18.90	3 Yr	+Avg	Avg	<b>4★</b>	3 Yr 701 funds 6	
	ω κ		MSCI	-0.03	-0.68	16.71	5 Yr	Avg	Avg	3 <b>★</b>	5 Yr 610 funds	
16.50%	98.88	NR USD 0.47	Best Fit Index MSCI ACWI Ex USA	0.25	3.33	14.20	10 Yr	Avg	Avg	3★	10 Yr 419 funds	

888

Below B

묾

USA NR USD MSCI ACWI Ex Category Index

Blend

US Fund Foreign Large Morningstar Cat

_	_		_					<u>i 7: i i i i i </u>
706	48	1.45	1.45	18.28	100.18	2012		98 🎞
791	83	-0.13	-0.13	15.15	112.01	2013		96
750	జ	-0.29	-0.29	4.15	103.98	2014		8 1
788	79	1.42	1.42	-4.24	96.94	2015		99
762	12	0.20	0.20	4.70	98.50	2016		97 III
756	23	0.36	0.36	27.55	122.03	2017		97
741	50	-0.20	-0.20	-14.39	101.46	2018		99
737	51	0.04	0.04	21.56	119.47	2019		% <u></u>
785	జ	0.63	0.63	11.28	129.79	2020		10 10
767	68	0.85	0.85	8.68	136.77	2021		97
758		-0.26	-0.26	-26.76	98.31	09-22		97 97 400 401
No. of Funds in Cat	% Rank Cat	+/- Category Index	+/- Standard Index	Total Return %	NAV/Price	History	Performance Quartile (within category)	^ ^ ^ ?₽ Inve
s in Cat		/ Index	d Index	1%			e Quartile lory)	stment Style ifit ifit itit itit itit itit itit iti
								)ck

Fixed-Income Style		llsm2	PIW	a de	_	Value Bland Growth	Family Only	Total	Other/Not Clsfd	Bonds	Non-US Stocks	US Stocks	Cash	Asset Allocation %	Portfolio Analysis 09-30-2022
e Ava Eff Maturity		\$mil	P/B Ratio I IIVI			FORHOLIO STRUSTICS	Poutalia Statistica	100.00	0.08	0.00	96.48	0.71	2.73	6 Net %	sis 09-30-2022
		22032 0.03		_		Avg Index	1	100.30	0.08	0.00	96.48	0.71	3.03	Long %	
		0.33						0.30	0.00	0.00	0.00	0.00	0.30	Short %	
⊕ (	Ð	1	<b>⊕</b>	1	<b>⊕</b>	<b>⊕</b>	1	<b>⊕</b>	1	1	•	00-2022	SINCE	Share Chg	
200 mil	21 mil	27 mil	162 mil	20 mil	5 mil	63 mil	98 mil	80 mil	9 mil	36 mil	320 11111		Amount		
200 mil Alibaba Group Holding Ltd Ordinary	Novo Nordisk A/S Class B	Novartis AG	Toyota Motor Corp	AstraZeneca PLC	ASML Holding NV	Samsung Electronics Co Ltd	Shell PLC	Tencent Holdings Ltd	Roche Holding AG	Nestle SA	i alwan semiconductor Manufacturing	Time Cominant Manufacturing	/,863   otal Stocks , U   otal Fixed-Income ,	Holdings:	
0.64	0.67	0.67	0.68	0.69	0.71	0.74	0./8	0.86	0.96	1.25	1.36	2	%	Net Assets	

Qualit				Mod	Income Style		L
y <sub>B</sub>				Ext	St.		
eak	мот	beM	ЧвіН		ĕ		II
Quality Breakdown —		Avg Wtd Price	Avg Eff Duration  Avg Wfd Counon	Avg Eff Maturity			
Bond %		1					
<b>% Cyclical ∴</b> Basic Ma <b>∴</b> Consume	Sector V	•	① (	⊕ (	₽ €	Ð	
Cyclical Basic Material Consumer Cyc	Sector Weightings	67 mil	19 mil	3 mil	200 mil	21 mil	

LVMH Moet Hennessy Louis Vuitton SE

BHP Group Ltd Royal Bank of Canada

Credit AAA

₽

1.02	3. 3.	Utilities	
0.95	9.5	Healthcare	1 05
0.92	8.4	Consumer Defensive	n 96 86
0.95	21.2	→ Defensive	96.0
1.00	11.0	Technology	Ral Std Index
1.12	13.3	Industrials	
0.94	5.9	◆ Energy	1
0.93	5.9	Communication Services	1
1.02	36.0	∨ Sensitive	
1.48	3.7	Real Estate	1
0.94	19.4	Financial Services	
1.02	11.2	Consumer Cyclical	
1.04	8.5	Basic Materials	8
1.01	42.8	ე Cyclical	Donal of
Rel Std Index	Stocks %	Sector Weightings	

Operations		
Family:	Vanguard	Base C
Manager:	Multiple	Ticker:
Tenure:	14.2 Years	:NISI
Objective:	Foreign Stock	Minimu

num Initial Purchase: §		_	Currency: L	
\$5 mil	US9219097840	VTSNX	USD	

Greater Asia Greater Europe Americas Regional Exposure

Stocks %

₽

11.2 41.5 47.2

Total Assets:	Incept:	Purchase Constraints:

\$43,462.71 mil

11-29-2010

0.74 0.71 0.69 0.68 0.67 0.67 0.64 0.63 0.54

# Standardized and Tax Adjusted Returns Disclosure Statement

data quoted herein. For performance data current to the most recent month-end please visit http://advisor.morningstar.com/familyinfo.asp. fluctuate; thus an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than return The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will

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

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. M&E risk charges, fund-level expenses such as management fees and operating fees, contract-level administration fees, and charges such as surrender, contract If adjusted for taxation, the performance quoted would be significantly reduced. For variable annuities, additional expenses will be taken into account, including

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 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 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 returns for exchange-traded funds are based on net asset value. 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 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

# **Money Market Fund Disclosures**

it to the applicable disclosure below: 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

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

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 expect that the sponsor will provide financial support to the fund at any time 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 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 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

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

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

financial support to the fund at any time. 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 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 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 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

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

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. 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 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

Annualized returns 09-30-2022												
Standardized Returns (%)	7-day Yield 7-day Yield Subsidized Unsubsidized as of date as of date	Yield dized date	1Yr	5Yr	10Yr	Since Inception	Inception <b>Ma</b> Date	Max Front Max Back	Max Back Load %	Net Exp Ratio %	Gross Exp Max Ratio % Redemption %	Max mption %
American Funds Europacific Growth R6	I		-32.85	-0.23	4.52	6.36 05-01-200	01-2009	NA	NA	0.46	0.46	A
MFS Value R4			-10.06	5.85	9.85	7.78 04-01-2009	01-2005	N	NA	0.55	0.55	NA
Sterling Capital Total Return Bond R6			-14.72			0.41 02-01-201	01-2018	N	NA	0.351	0.46	NA
T. Rowe Price Growth Stock I			-35.76	6.83		8.99 08-28-201	28-2015	N	NA	0.51	0.51	N
Vanguard Extended Market Index InstIPlus	1		-29.54	4.84	9.45	8.67 01-14-2017	14-2011	NA	NA	0.04	0.04	NA
Vanguard Institutional Index Instl PI	1	1	-15.49	9.23	11.69	7.59 07-07-1997	07-1997	N	NA	0.02	0.02	NA
Vanguard Mid-Cap Growth Index Admiral			-27.45	7.68	10.52	11.09 09-27-201	27-2011	N	NA	0.07	0.07	NA

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Morningstar, (3) may not be copied or redistributed. (4) do not constitute investment advice offered by Morningstar (5) are provided solely for informational purposes and therefore are not an offer to buy or sell a security. In a security, or any trading desions, damages are distributed in the control of the control



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Annualized returns 09-30-2022												
tandardized Returns (%)	7-day Yield 7-day Yield Subsidized Unsubsidized as of date as of date	-day Yield subsidized as of date	1Yr	5Yr	10Yr	Since Inception	Inception Date	Inception Max Front Max Back Date Load % Load %	Max Back Load %	Net Exp Ratio %	Gross Exp Max Ratio % Redemption %	Max emption %
anguard Mid-Cap Value Index Admiral			-11.10	5.23	10.10	11.16	09-27-2011	N	NA	0.07	0.07	NA
'anguard Target Retirement 2020 Fund 'anguard Target Retirement 2025 Fund			-15.83 -17.53	2.91 3.15	5.46 5.96	5.88	10-27-2003	8 8	N N	0.08	0.08	N N
anguard Target Retirement 2030 Fund	1	1	-18.42	3.43	6.46	5.69	06-07-2006	N A	NA	0.08	0.08	N
anguard Target Retirement 2035 Fund	1		-18.87	3.78	6.99	6.52	10-27-2003	N S	N S	0.08	0.08	NA :
anguard Target Retirement 2040 Fund		1	-19.42	4.11	7.40	6.18	06-07-2006	NA	N	0.08	0.08	NA
'anguard Target Retirement 2045 Fund 'anguard Target Retirement 2050 Fund			-19.93 -20.18	4.42 4.39	7.61 7.60	7.02 6.33	10-27-2003 06-07-2006	8 8	8 8	0.08	0.08	N N
anguard Target Retirement 2055 Fund	1	1	-20.17	4.38	7.58	8.37	08-18-2010	N	N	0.08	0.08	N
anguard Target Retirement 2060 Fund			-20.16	4.38	7.58	7.91	01-19-2012	NA	NA	0.08	0.08	NA
anguard Target Retirement 2065 Fund	I	I	-20.10	4.36		4.95	07-12-2017	N	N	0.08	0.08	N
'anguard Target Ketirement Income Fund 'anguard Total Bond Market Index I			-14.19 -14.65	1.96 -0.24	0.86	4.43 4.20	10-2/-2003 09-18-1995	8 8	N N	0.08 20.08	0.08	N N
'anguard Total Intl Stock Index I	1	1	-25.20	-0.68	3.33	2.94	11-29-2010	N	N	0.08	0.08	N
			11160	0 37	9		23 1000					
Sloomberg US Agg Bond TR USD Sloomberg US Universal TR USD			-14.60 -14.92	-0.27 -0.18	0.89 1.17	1 1	01-03-1980 12-31-1998					
Norningstar Gbl Allocation TR USD Norningstar Gbl xUS Growth TME NR			-20.42 —	2.12	1 1	1 1	06-18-2013 11-24-2021					
Norningstar Lifetime Mod 2020 TR USD			-18.89	2.47	4.62	I	02-18-2009					
Aorningstar Lifetime Mod 2025 TR USD Aorningstar Lifetime Mod 2030 TR USD			-19.88 -20.52	2.63 2.92	5.22 5.89		02-18-2009 02-18-2009					
Norningstar Lifetime Mod 2035 TR USD Norningstar Lifetime Mod 2040 TR USD			-20.74 -20.78	3.27 3.56	6.46 6.79	1 1	02-18-2009 02-18-2009					
Norningstar Lifetime Mod 2045 TR USD			-20.83	3.68	6.89	1	02-18-2009					
Norningstar Lifetime Mod 2050 TR USD			-20.91 -21.04	3.67 3.59	6.85 6.76		02-18-2009					
Norningstar Lifetime Mod 2060 TR USD  Norningstar Lifetime Mod Incm TR			-21.18 -14.27	3.49	بر بر		06-23-2014 07-18-2009					
JSD Norningstar Mod Tgt Risk TR USD			-18.20	2.95	5.17	I	02-18-2009					
Morningstar US Core Bd TR USD			-14.54 -25 98		1 1	1 1	05-01-2019 12-21-2020					
			2				3					
Morningstar US Mid Brd Grt TR USD			-26.35	1 1		 	12-21-2020					
Norningstar US Mid Brd Val TR USD			-9.44	l	Ι	I	12-21-2020					
Norningstar US Mod Con Tgt Alloc NR ISD			-15.50	I	I	I	06-30-2020					
Norningstar US Sml Brd Grt Ext TR ISD			-29.08	I	I	I	12-21-2020					
ASCI ACWI Ex USA Growth NR USD			-30.22	0.18	3.95	ı	01-01-2001					
ASCI ACWI NR USD			-25.17 -20.66	-0.81 4.44	3.01 7.28	1 1	01-01-2001					
ASCI EAFE NR USD			-25.13	-0.84	3.67	1	03-31-1986					
lussell 1000 Growth TR USD			-22.59 -17 <i>2</i> 2	9.00	13.70 11 60	 	01-01-1987 12-31-1978					
ussell 1000 Value TR USD			-11.36	5.29	9.17	I	01-01-1987					
lussell Mid Cap Growth TR USD			-29.50	7.62	10.85	1	02-01-1995					
iussell Mid Cap Value TR USD			-13.56	4.76 9.24	9.44 11 70		12-31-1985 01-30-1970					
JSTREAS T-Bill Auction Ave 3 Mon			1.08	1.19	0.71	I	02-28-1941					



<sup>1.</sup> Contractual waiver; Expires 01-31-2023

Annualized returns 09-30-2022									
Return after Tax (%)	On Distribution					On Distribution and Sales	on and Sales of Shares		
	1Yr	5Yr	10Yr	Since Inception	Inception Date	1Yr	5Yr	10Yr	Since Inception
American Funds Europacific Growth R6	-33.96	-1.35	3.55	5.50	05-01-2009	-18.52	-0.01	3.52	5.11
MFS Value R4	-11.12	4.60	8.46	6.58	04-01-2005	-5.53	4.15	7.49	5.98
Sterling Capital Total Return Bond R6	-15.78			-0.92	02-01-2018	-8.53	l		-0.16
T. Rowe Price Growth Stock I	-37.36	4.86		7.24	08-28-2015	-19.47	5.34		6.99
Vanguard Extended Market Index InstlPlus	-29.73	4.45	8.97	8.24	01-14-2011	-17.33	3.70	7.60	7.02
Vanguard Institutional Index Instl PI	-16.43	8.38	10.91	7.01	07-07-1997	-8.23	7.26	9.56	6.36
Vanguard Mid-Cap Growth Index Admiral	-27.57	7.49	10.27	10.85	09-27-2011	-16.15	6.02	8.63	9.20
Vanguard Mid-Cap Value Index Admiral	-11.55	4.64	9.45	10.49	09-27-2011	-6.21	4.01	8.15	9.12
Vanguard Target Retirement 2020 Fund	-19.31	1.05	4.07	4.24	06-07-2006	-6.29	2.23	4.16	4.10
Vanguard Target Retirement 2025 Fund	-20.42	1.65	4.73	4.97	10-27-2003	-7.65	2.44	4.54	4.65
Vanguard Target Retirement 2030 Fund	-21.43	2.03	5.33	4.84	06-07-2006	-7.91	2.72	5.00	4.50
Vanguard Target Retirement 2035 Fund	-22.13	2.34	5.81	5.69	10-27-2003	-7.85	3.06	5.46	5.29
Vanguard Target Retirement 2040 Fund	-22.82	2.69	6.29	5.36	06-07-2006	-7.98	3.37	5.86	4.97
Vanguard Target Retirement 2045 Fund	-22.58	3.22	6.60	6.28	10-27-2003	-9.04	3.57	6.02	5.75
Vanguard Target Retirement 2050 Fund	-22.44	3.30	6.68	5.61	06-07-2006	-9.60	3.50	6.01	5.08
Vanguard Target Retirement 2055 Fund	-22.00	3.42	6.78	7.65	08-18-2010	-10.09	3.39	6.01	6.78
Vanguard Target Retirement 2060 Fund	-21.33	3.61	6.89	7.26	01-19-2012	-10.94	3.33	5.98	6.30
Vanguard Target Retirement 2065 Fund	-20.53	3.89		4.50	07-12-2017	-11.57	3.32		3.80
Vanguard Target Retirement Income Fund	-16.19	0.63	2.17	3.30	10-27-2003	-7.14	1.27	2.29	3.18
Vanguard Total Bond Market Index I	-15.45	-1.25	-0.21	2.52	09-18-1995	-8.59	-0.55	0.23	2.59
Vanguard Total Intl Stock Index I	-25.92	-1.48	2.41	2.04	11-29-2010	-14.46	-0.56	2.41	2.13

# 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 commodifies

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, publically-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.

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

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



#### Performanc

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 class(es) 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.

#### **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.

#### **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 of benefitting 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 short will experience a loss buying it at a higher price than the sale price.

underlying a pie chart's generation. Because of the nature of how these presentation.) breakdowns may rescale identified characteristics to 100% for more intuitive unidentified characteristics of fund holdings are material, pie charts and other portfolio information to report asset allocation. Morningstar, at its discretion, securities are reported to Morningstar, we may not always get complete data to Morningstar that does not meet the parameters of the calculation short positions or portfolio with relatively exotic derivative positions often report characteristics. Portfolios that incorporate investment strategies resulting in enhance returns, or reduce risk. Some of these securities and strategies behave short positions or derivatives, in an attempt to reduce transaction costs, equities and bonds. Morningstar may generate a colored pie chart for these percentages total to 100 percent. (Morningstar used discretion to determine if Asset allocation and other breakdowns may be rescaled accordingly so that may determine if unidentified characteristics of fund holdings are material. like conventional securities, while other have unique return and risk portfolios. Other portfolios use other investment strategies or securities, such as Most fund portfolios hold fairly conventional securities, such as long positions in

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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.

#### 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, or 365 days).

#### Mean

Mean is the annualized geometric return for the period shown.

## Morningstar Analyst Rating™

is directly subtracted from an expected gross alpha estimate derived from the analysis of people and process; price at the share-class level (where applicable) evaluation performed by Morningstar's manager research group, which consists modification by alpha dispersion is not used. peer groups of investment products using alternative investment strategies, the certain peer groups where standard benchmarking is not applicable, primarily process and parent on the final Morningstar Analyst Rating is further modified analysis of the other pillars. The impact of the weighted pillar scores for people, strategies, performance has no explicit weight as it is incorporated into the people and parent each receive a 10% weighting. For both active and passive weighting. For passive strategies, process receives an 80% weighting, while term on a risk adjusted basis. They consider quantitative and qualitative factors pillars, which are process, performance, people, parent, and price. The Manager The Manager Research Group evaluates investment products based on five key registered with and governed by the U.S. Securities and Exchange Commission United States, that subsidiary is Morningstar Research Services LLC, which is of various Morningstar, Inc. subsidiaries ("Manager Research Group"). In the The Morningstar Analyst Rating $^{TM}$  is not a credit or risk rating. It is a subjective by a measure of the dispersion of historical alphas among relevant peers. For receive a 45% weighting in their analysis, while parent receives a 10% in their research. For actively managed strategies, people and process each investment products are likely to perform relative to a benchmark over the long Research Group uses this five-pillar evaluation to determine how they believe

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Separately managed accounts are rated using the methodology for actively managed funds. A proxy fee is deducted from all separately managed accounts in a given Morningstar Category. The proxy fee is based on a survey of separately managed account model-delivery fees.

active investment product will be able to deliver positive alpha net of fees peer group. Morningstar Analyst Ratings ultimately reflect the Manager will deliver a weighted pillar score above a predetermined threshold within its investment strategies, a Morningstar Analyst Rating of Gold, Silver, or Bronze reflects the Manager Research Group's expectation that an investment product not applicable, primarily peer groups of investment products using alternative expected net alpha relative to Morningstar category peers for passive investment products, a Morningstar Analyst Rating of Gold, Silver, or Bronze to Morningstar category peers for active investment products. For passive Silver, or Bronze reflects the Manager Research Group's expectation that an Negative. For active investment products, a Morningstar Analyst Rating of Gold investment products. For certain peer groups where standard benchmarking Morningstar category median or 0. The level of the rating relates to the level of will be able to deliver a higher alpha net of fees than the lesser of the relevant reflects the Manager Research Group's expectation that an investment product The level of the rating relates to the level of expected positive net alpha relative relative to the standard benchmark index assigned to the Morningstar category. The Morningstar Analyst Rating scale is Gold, Silver, Bronze, Neutral, and



For more detailed information about Morningstar's Analyst Rating, including its methodology, please go to http://global.morningstar.com/equitydisclosure.

The Morningstar Analyst Rating (i) should not be used as the sole basis in evaluating an investment product, (ii) involves unknown risks and uncertainties which may cause the Manager Research Group's expectations not to occur or to differ significantly from what they expected, and (iii) should not be considered an offer or solicitation to buy or sell the investment product

# Morningstar Quantitative Rating™

Morningstar's quantitative fund ratings consist of: (i) Morningstar Quantitative Rating (overall score), (ii) Quantitative Parent pillar, (iii) Quantitative People pillar, and (iv) Quantitative Process pillar (collectively the "Quantitative Fund Ratings"). The Quantitative Fund Ratings are calculated monthly and derived from the analyst-driven ratings of a fund's peers as determined by statistical algorithms. Morningstar, Inc. calculates Quantitative Fund Ratings for funds when an analyst rating does not exist as part of its qualitative coverage.

Morningstar Quantitative Rating: Intended to be comparable to Morningstar's Analyst Ratings for open-end funds and ETFs, which is the summary expression of Morningstar's forward-looking analysis of a fund. The Morningstar Analyst Rating is based on the analyst's conviction in the fund's ability to outperform its peer group and/or relevant benchmark on a risk-adjusted basis over a full market cycle of at least 5 years. Ratings are assigned on a five-tier scale with three positive ratings of Gold, Silver, and Bronze, a Neutral rating, and a Negative rating. Morningstar calculates the Morningstar Quantitative Rating our fund analysts assign to open-end funds and ETFs. Please go to <a href="https://shareholders.morningstar.com/investor-relations/governance/Compliance--Disclosure/default.aspx">https://shareholders.morningstar.com/investor-relations/governance/Compliance--Disclosure/default.aspx</a> for information about Morningstar Analyst Bating Morningstar's fund analysts assign to funds

about Morningstar Analyst Rating Morningstar's fund analysts assign to funds.
 Quantitative Parent pillar: Intended to be comparable to Morningstar's Parent pillar scores, which provides Morningstar's analyst opinion on the stewardship quality of a firm. Morningstar calculates the Quantitative Parent pillar using an algorithm designed to predict the Parent Pillar score our fund analysts would assign to the fund. The quantitative pillar rating is

Average (3), Below Average (2), Low (1).

expressed in both a rating and a numerical value as High (5), Above Average (4),

- Quantitative People pillar: Morningstar's People pillar scores, which provides Morningstar's analyst opinion on the fund manager's talent, tenure, and resources. Morningstar calculates the Quantitative People pillar using an algorithm designed to predict the People pillar score our fund analysts would assign to the fund. The quantitative pillar rating is expressed in both a rating and a numerical value as High (5), Above Average (4), Average (3), Below Average (2), Low (1).
- Quantitative Process Pillar: Intended to be comparable to Morningstar's Process pillar scores, which provides Morningstar's analyst opinion on the fund's strategy and whether the management has a competitive advantage enabling it to execute the process and consistently over time. Morningstar calculates the Quantitative Process pillar using an algorithm designed to predict the Process pillar score our fund analysts would assign to the fund. The quantitative pillar rating is expressed in both a rating and a numerical value as High (5), Above Average (4), Average (3), Below Average (2) and Low (1).

Morningstar Quantitative Ratings have not been made available\_to the issuer of the security prior to publication.

#### Risk Warning

The quantitative fund ratings are not statements of fact. Morningstar does not guarantee the completeness or accuracy of the assumptions or models used in determining the quantitative fund ratings. In addition, there is the risk that the return target will not be met due to such things as unforeseen changes in changes in management, technology, economic development, interest rate development, operating and/or material costs, competitive pressure, supervisory law, exchange rate, and tax rate. For investments in foreign markets there are further risks, generally based on exchange rate changes or changes in political and social conditions. A change in the fundamental factors underlying the quantitative fund ratings can mean that the recommendation is subsequently no longer accurate.

For more information about Morningstar's quantitative methodology, please visit <a href="https://shareholders.morningstar.com/investor-relations/governance/Compliance--Disclosure/default.aspx">https://shareholders.morningstar.com/investor-relations/governance/Compliance--Disclosure/default.aspx</a>

## 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

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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<sup>TM</sup>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 4 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/managerdisclosures

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 (-Ave), and the bottom 10% Low (Low). Morningstar Return is

#### **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/ocr/ocr-leam-nrsros.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 holdingt 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 an 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 categoriesemploy 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 Returi

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.

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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 Risks**

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



company stocks have experienced a greater degree of market volatility than the are not as well established as larger blue-chip companies. Historically, smalleroverall market average

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

aware of the possible higher level of volatility, and increased risk of default. (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 High-Yield Bonds: Portfolios that invest in lower-rated debt securities

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

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

underlying investments may not be representative of the particular industry, the discount to market price, ownership is of a fractional share interest, the products that, if the industry is hit by hard times, will lack diversification and drops below nine, and the investor may experience trading halts HOLDR might be delisted from the AMEX if the number of underlying companies possible loss of investment would be likely. These securities can trade at a The investor should note that these are narrow industry-focused

return under a variety of market conditions, hedge funds may involve a high hedge fund managers may be to reduce volatility and produce positive absolute who could bear the entire loss of their investment. degree of risk and are suitable only for investors of substantial financial means investing, and use of leverage, options and/or derivatives. Although the goal of strategies, using arbitrage (exploiting price inefficiencies), international the manager. This can include distressed or event-driven strategies, long/short specialized risks that are dependent upon the type of strategies undertaken by Hedge Funds: The investor should note that hedge fund investing involves

bank loans/senior debt are often highly leveraged, producing a high risk of 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 associated with fixed income in general, including interest rate risk and default Bank Loan/Senior Debt: Bank loans and senior loans are impacted by the risks

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

greater or less than the index performance multiplied by the multiple stated objective). The leverage/gearing ratio is the amount of excess return that a objectives on a daily basis (or other time period stated within the prospectus return performance of the index they track and seek to meet their fund within the funds objective over a stated time period 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 leveraged investment is designed to achieve in comparison to its index Leveraged ETFs: Leveraged investments are designed to meet multiples of the

Short Positions: When a short position moves in an unfavorable way, the losses

> manager might have to close out a short position at an inopportune time to limit are theoretically unlimited. The broker may demand more collateral and a turther losses.

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

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

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

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

allocation to equity mutual funds and increasing its allocations in fixed-income typically becomes more conservative over time, primarily by reducing its withdrawing their money. A target-date fund's investment objective/strategy are designed for investors who are planning to retire during the target date year guaranteed at any time, including at the fund's target date. The fund's target date is the approximate date when investors expect to begin mutual funds. An investor's principal value in a target-date fund is not Target-Date Funds: Target-date funds typically invest in other mutual funds and

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

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# Benchmark Disclosure

# Bloomberg US Agg Bond TR USD

any warranty, express or implied, as to the results to be obtained therefrom and accuracy or completeness of any information herein, nor does Bloomberg make to the maximum extent allowed by law, Bloomberg shall not have any liability or Bloomberg or Bloomberg's licensors own all proprietary rights in the Bloomberg of Bloomberg Finance L.P. and its affiliates (collectively "Bloomberg" Bloomberg Index Services Limited. Bloomberg® is a trademark and service mark dividends. Bloomberg Indexes and its associated data, Copyright © 2022 publish for the index are total returns, which includes the daily reinvestment of Backed Securities Index, and the Asset-Backed Securities Index. The returns we This index is composed of the BarCap Government/Credit Index, the Mortgage-US Aggregate Bond ETF. constituents displayed for this index are from the following proxy: iShares Core responsibility for injury or damages arising in connection therewith. The Indices. Bloomberg does not approve or endorse this material or guarantee the

# Bloomberg US Universal TR USD

the 144A Index, the Eurodollar Index, the Emerging Markets Index, the non-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,



# 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 Growth TME NR USD

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

# **Morningstar Lifetime Mod 2020 TR USD**

The Morningstar Lifetime Moderate 2020 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 ten years away from retirement. The Moderate risk profile is for investors who are comfortable with average exposure to equity market volatility.

# 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.

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## 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 LM Brd Val TR USD

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

# Morningstar US Mid Brd Grt TR USD

The index measures the performance of US mid-cap growth stocks. It targets stocks representing the faster growing half of the mid-cap market. This Index does not incorporate Environmental, Social, or Governance (ESG) criteria.

# Morningstar US Mid Brd Val TR USD

The index measures the performance of US mid-cap value stocks. It targets stocks representing the cheaper half of the U.S. mid-cap market. This Index does



not incorporate Environmental, Social, or Governance (ESG) criteria

# Morningstar US Mod 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 Moderately Conservative Target Allocation Index seeks 40% exposure to global equity markets.

# **Morningstar US Sml Brd Grt 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.

# **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 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 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 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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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.

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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.

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