

# Vanguard® Target Retirement 2045 Fund

## Investment Approach

Simple fund of funds structure seeks to build appropriate asset allocation from preselected stock and bond portfolios.

The allocation between funds and asset classes automatically becomes more conservative over time.

The fund handles investment selection, asset allocation, and rebalancing through retirement.

100% of assets invested in index funds.

**Note:** Lower priced options may be available depending on your plan size.

## Quarterly Commentary

Major stock markets continued to advance in the first quarter of 2024, with a number of indexes reaching record highs. In the U.S., inflation readings came in higher than expected, but consumer spending remained strong and the economy showed continued vigor.

Global stocks returned just shy of 8% for the quarter, as measured by the FTSE Global All Cap Index. U.S. equities led the way, while those in emerging markets lagged but still finished in positive territory. Inflation readings stayed above target in many developed economies, but labor markets remained on solid footing. Given this backdrop, a number of major central banks, including the U.S. Federal Reserve, European Central Bank, and Bank of England, left interest rates unchanged.

With rate cuts looking less imminent, bond yields generally rose and prices declined. The yield of the bellwether 10-year U.S. Treasury note, for example, ended the quarter higher at 4.20%. The broad U.S. investment-grade bond market returned -0.72% (as measured by the Bloomberg U.S. Aggregate Float Adjusted Index).

For the quarter, returns of Vanguard Target Retirement Funds ranged from 2.09% for the Target Retirement Income Fund to 6.89% for the Target Retirement 2050 Fund. Those results reflected the performance of the underlying funds in which the Target Retirement Funds invest. Vanguard Total Bond Market II Index Fund Investor Shares returned -0.82%, Vanguard Total International Bond II Index Fund Institutional Shares 0.07%, Vanguard Short-Term Inflation-Protected Securities Index Fund Admiral Shares 0.85%, Vanguard Total International Stock Index Fund Investor Shares 4.29%, and Vanguard Total Stock Market Index Fund Institutional Plus Shares 10.01%.

For the 12 months ended March 31, 2024, returns of the Target Retirement Funds ranged from 8.47% for the Target Retirement Income Fund to 20.51% for the Target Retirement 2070 Fund.

## People and Process

Vanguard Target Retirement 2045 Fund uses an asset allocation strategy designed for investors planning to retire between 2043 and 2047. The fund seeks to provide growth of capital and current income consistent with its current target allocation by investing in a gradually more conservative mix of the following Vanguard funds: Total Stock Market Index Fund, Total Bond Market II Index Fund, Total International Stock Index Fund, Total International Bond II Index Fund, and Short-Term Inflation-Protected Securities Fund. The combination of funds produces a portfolio that is diversified by asset class and holdings.

Vanguard Target Retirement 2045 Fund is one of a series of Vanguard funds that use a targeted maturity approach as a simplified way to meet investors' different objectives, time horizons, and changing risk tolerances. As your retirement date approaches, the fund's allocation will grow more conservative and will begin to invest in the Vanguard Short-Term Inflation-Protected Securities Index Fund to provide a hedge against inflation while dampening the overall volatility of the portfolio. In this regard, the fund diversifies both stock and conventional bond exposure. Within seven years after 2045, the fund's asset allocation should resemble that of the Target Retirement Income Fund.

## Vanguard Equity Index Group

Launched in 1975, The Vanguard Group, Malvern, Pennsylvania, is among the world's largest equity and fixed income managers. As chief investment officer, Gregory Davis, CFA, oversees Vanguard's Equity Index, Investment Strategy, Quantitative Equity, and Fixed Income Groups. Rodney Comegys, Principal and global head of Vanguard's Equity Index Group, is responsible for all equity index funds. The Equity Index Group manages indexed equity portfolios covering U.S. and international markets. It has developed sophisticated portfolio construction methodologies and efficient trading strategies that seek to deliver returns that are highly correlated with target portfolio benchmarks. The group has advised Vanguard Target Retirement 2045 Fund since 2003.

## Investment Manager Biographies

Michael R. Roach, CFA. Portfolio manager. Advised the fund since 2023. Worked in investment management since 2000. B.S., Bloomsburg University of Pennsylvania. M.S., Drexel University.

Walter Nejman. Portfolio manager. Advised the fund since 2013. Worked in investment management since 2008. B.A., Arcadia University. M.B.A., Villanova University.

Aurelie Denis, CFA. Portfolio manager. Advised the fund since 2023. Worked in investment management since 2017. B.S., Pennsylvania State University.

Roger Aliaga-Diaz, Ph.D., Principal. Portfolio manager, Investment Strategy Group. Advised the fund since 2023. Worked in investment management since 2010. B.A., Universidad Nacional de Córdoba. Ph.D., North Carolina State University.

**Total Returns**

	Expense Ratio	Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years
Target Retirement 2045 Fund (10/27/2003)	0.08%	6.45%	6.45%	19.45%	5.34%	9.74%	8.40%
Target Retirement 2045 Composite Index	—	6.38	6.38	19.70	5.66	10.14	8.73

**The performance data shown represent past performance, which is not a guarantee of future results. Investment returns and principal value will fluctuate, so investors' shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data cited. For performance data current to the most recent month-end, visit our website at [vanguard.com/performance](http://vanguard.com/performance). The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.** Figures for periods of less than one year are cumulative returns. All other figures represent average annual returns. Performance figures include the reinvestment of all dividends and any capital gains distributions. All returns are net of expenses.

Note: Target Retirement 2045 Composite Index: Derived by applying the fund's target asset allocation to the results of the following benchmarks: for international stocks of developed markets, the MSCI EAFE Index through December 15, 2010, the MSCI ACWI ex USA IMI Index through June 2, 2013, and the FTSE Global All Cap ex US Index thereafter; for emerging-market stocks, the Select Emerging Markets Index through August 23, 2006, the MSCI Emerging Markets Index through December 15, 2010, the MSCI ACWI ex USA IMI Index through June 2, 2013, and the FTSE Global All Cap ex US Index thereafter; for U.S. bonds, the Bloomberg U.S. Aggregate Bond Index through December 31, 2009, and the Bloomberg U.S. Aggregate Float Adjusted Index thereafter; for international bonds, the Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped Index Hedged beginning June 3, 2013; and for U.S. stocks, the Dow Jones U.S. Total Stock Market Index (formerly known as the Dow Jones Wilshire 5000 Index) through April 22, 2005, the MSCI US Broad Market Index through June 2, 2013, and the CRSP US Total Market Index thereafter. International stock benchmark returns are adjusted for withholding taxes.

**Quarterly Returns**

Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Year-End		
					Target Retirement 2045 Fund	Target 2045 Composite Index	Assets (Millions)
2024	6.45%	—	—	—	—	—	\$82,605
2023	6.49	5.10%	-3.45%	10.57%	19.48%	19.77%	76,283
2022	-5.67	-13.93	-6.51	8.89	-17.36	-16.93	60,449
2021	4.47	6.55	-1.08	5.49	16.16	16.45	29,427
2020	-19.88	18.70	7.36	13.90	16.30	17.02	33,864
2019	11.48	3.51	0.26	8.00	24.94	25.37	28,962
2018	-0.58	0.94	4.03	-11.78	-7.90	-7.77	21,636
2017	6.19	3.84	4.66	5.22	21.42	21.55	22,007
2016	0.79	1.79	4.82	1.24	8.87	9.13	16,483
2015	2.41	0.10	-7.95	4.30	-1.57	-1.25	14,344
2014	1.69	4.60	-1.48	2.26	7.16	7.61	15,036

**Fund Facts**

Fund Number	0306
Ticker	VTIVX
Newspaper Listing	TgtRe2045
CUSIP Number	92202E607
Assets (millions)	\$82,605
Inception	10/27/2003
Acquired Fund Fees and Expenses (as of 1/2024)	0.08%

**Volatility Measures**

	R-Squared	Beta
Target Retirement 2045 Composite Ix	1.00	1.01
MSCI US Broad Market Index	0.95	0.83

R-squared and beta are calculated from trailing 36-month fund returns relative to the associated benchmark.

**Fund Asset Allocation**

	% of Total Net Assets
Stocks	84.0%
Bonds	15.1
Short-term reserves	0.9
Total	100.0%

**Allocation to Underlying Vanguard Funds**

	% of Total Net Assets
Total Stock Market Index Fund	52.2%
Total International Stock Index Fund	32.6
Total Bond Market II Index Fund	10.5
Total International Bond II Index Fund	4.7
<b>Total</b>	<b>100.0%</b>

## Important information

**For more information about Vanguard funds or Vanguard ETFs, visit [vanguard.com](https://www.vanguard.com) or call 800-523-1036 to obtain a prospectus or, if available, a summary prospectus. Investment objectives, risks, charges, expenses, and other important information are contained in the prospectus; read and consider it carefully before investing.**

**Vanguard ETF Shares are not redeemable with the issuing Fund other than in very large aggregations worth millions of dollars. Instead, investors must buy or sell Vanguard ETF Shares in the secondary market and hold those shares in a brokerage account. In doing so, the investor may incur brokerage commissions and may pay more than net asset value when buying and receive less than net asset value when selling.**

All investing is subject to risk, including the possible loss of the money you invest.

Please remember that all investments involve some risk. Be aware that fluctuations in the financial markets and other factors may cause declines in the value of your account. There is no guarantee that any particular asset allocation or mix of funds will meet your investment objectives or provide you with a given level of income. Diversification does not ensure a profit or protect against a loss. Funds that concentrate on a relatively narrow market sector face the risk of higher share-price volatility.

Investments in bond funds and ETFs are subject to interest rate, credit, and inflation risk. High-yield bonds generally have medium- and lower-range credit quality ratings and are therefore subject to a higher level of credit risk than bonds with higher credit quality ratings.

The Factor Funds are subject to investment style risk, which is the chance that returns from the types of stocks in which a Factor Fund invests will trail returns from U.S. stock markets. The Factor Funds are also subject to manager risk, which is the chance that poor security selection will cause a Factor Fund to underperform its relevant benchmark or other funds with a similar investment objective, and sector risk, which is the chance that significant problems will affect a particular sector in which a Factor Fund invests, or that returns from that sector will trail returns from the overall stock market.

Investments in derivatives may involve risks different from, and possibly greater than, those of investments in the underlying securities or assets.

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Investments in stocks or bonds issued by non-U.S. companies are subject to risks including country/regional risk and currency risk. These risks are especially high in emerging markets.

Investments in Target Retirement Funds are subject to the risks of their underlying funds. The year in the Fund name refers to the approximate year (the target date) when an investor in the Fund would retire and leave the work force. The Fund will gradually shift its emphasis from more aggressive investments to more conservative ones based on its target date. The Income Fund has a fixed investment allocation and is designed for investors who are already retired. An investment in the Target Retirement Fund is not guaranteed at any time, including on or after the target date.

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