

Important Disclosures

On December 31, 2020, Empower Retirement (Empower) acquired the retirement business of Massachusetts Mutual Life Insurance Company (MassMutual). Following an initial transition period, Empower will become the sole administrator of this business. Empower Retirement refers to the products and services offered by Great-West Life & Annuity Insurance Company and its subsidiaries, including Empower Retirement, LLC. Empower is not affiliated with MassMutual or its affiliates.

Current performance may be lower or higher than return data quoted herein. For more current information, including month-end performance, please visit www.retiresmart.com. The investment return and the principal value of an investment will fluctuate; so an investor's shares/units, when redeemed, may be worth more or less than their original cost. Investment portfolio statistics change over time. The investment is not FDIC-insured, may lose value and is not guaranteed by a bank or other financial institution.

Some plan investments may be made available through an unregistered group annuity contract issued to your plan by MassMutual. If that is the case, those plan investments 1.) may be in a separate investment account of MassMutual that purchases shares/units of one or more underlying investments, or 2.) may be invested directly in the investment via a separate arrangement between your plan and a trust company.

Pre-inception Returns

For newer share classes, Morningstar may provide adjusted historical returns based on the oldest surviving share class of a fund with at least three years of performance history. This enables companies to showcase the complete history of an investment. Morningstar calculates these returns by adjusting the initial share class performance for any difference in fee structure. However, if using the expenses of the newer share class rather than the expenses of the older share class would result in better performance, then pre-inception performance represents that of the older share class without any expense adjustment. The fees and expenses are referenced in the report's Operations section. Adjusted historical returns are not actual returns. Calculation methodologies utilized by Morningstar may differ from those applied by other entities, including the investment itself.

Performance

These figures reflect performance without adjusting for sales charges or the effects of taxation. They are adjusted, however, to reflect all actual ongoing fund expenses and assume reinvestment of dividends and capital gains. Returns are compared to an appropriate benchmark peer group to help investors evaluate performance. The investment's performance is generally compared with that of an index. The index is an unmanaged portfolio of specified securities and does not reflect any initial or ongoing expenses nor can it be invested in directly. An investment's portfolio may differ significantly from the securities in the index. The Index may not be the same as the comparative index noted in the investment's prospectus (if applicable).

Gross Expense Ratio/Net Expense Ratio

Expense ratios reflect the percentage of the investment's assets paid for operating expenses and management fees. In contrast to net expense ratios, gross expense ratios do not reflect any fee waivers in effect during the time period, which are typically disclosed alongside the expense ratios themselves. Net expense ratios reflect the fees actually borne by investors during the period they are in effect. Investment expense information (including waiver information) is pulled from an investment's most recent prospectus, if applicable. If an additional separate investment account fee applies, it is added to the gross and net expense ratio listed in the prospectus or other source of the expense information and factored into the performance of the separate investment account.

Unitized Plan Fund

If this is a unitized plan fund, it will invest in shares of the referenced underlying investment. Depending on the level of administrative services revenue ("ASR") generated from the underlying investment and Empower's target ASR for the plan, on a periodic basis Empower will make adjustments to the unitized plan fund's expense to cause each unitized plan

fund to produce ASR equal to the target ASR. If the ASR Empower receives from the underlying investment is more than Empower target ASR, Empower will allocate to the unitized plan fund a share of the revenue Empower received from the underlying investment so that the net expense of the unitized plan fund equals Empower's target revenue. If the ASR Empower receives from an underlying investment is less than Empower's target ASR, Empower will redeem shares or units from the underlying investment such that the amount of the revenue received from the underlying investment for administrative services and the redeemed share or units equals Empower's target revenue. As a result of this process, the reported performance and expenses of the unitized plan fund is based on but not identical to the performance and expenses reported for the underlying investment.

Maximum Sales Charge/12b-1 Fee/Redemption Fee

Maximum Sales Charges and Redemption Fees are waived for retirement plan participants. In addition, 12b-1 Fees are a component of the Net and Gross Expense Ratio; they are not in addition to the overall expense ratio.

Morningstar Rating™

This brings load-adjustments, performance (returns) and risk together into one evaluation. To determine a fund's star rating for a given time period (three, five, or 10 years), the fund's risk-adjusted return is plotted on a bell curve: If the fund scores in the top 10% of its category, it receives 5 stars (Highest); if it falls in the next 22.5% it receives 4 stars (Above Average); a place in the middle 35% earns 3 stars (Average); those lower still, in the next 22.5%, receive 2 stars (Below Average); and the bottom 10% get only 1 star (Lowest). The Overall Morningstar Rating is a weighted average of the available three-, five-, and 10-year ratings.

Morningstar Proprietary Statistics

Some Morningstar proprietary calculations, including the Morningstar Rating, Morningstar Return, and Morningstar Risk may be calculated based on pre-inception returns. See the above pre-inception returns disclosure for more details. For definitions of these statistics including credit quality, visit www.massmutual.com/FF/mstrdisclosure.pdf

Investment Risk

Money market investments are not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although these investments seek to preserve the value of your investment at \$1.00 per share, they cannot guarantee that they will do so. The fund's sponsor has no legal obligation to provide financial support to a money market option; and you should not expect that the sponsor will provide financial support to the fund at any time. You could lose money by investing in a money market option. The 7-day yield is a measure of performance in the interest rates of money market funds. To the extent total returns differ from the 7-day yield, the 7-day yield more accurately reflects the current earnings of the fund. Risks of investing in **debt securities investments** include the risk that a bond issuer will default by failing to repay principal and interest in a timely manner (credit risk) and/or the risk that the value of these securities will decline when interest rates increase (interest rate risk). Risks of investing in **inflation-protected bond investments** include credit risk and interest rate risk. Neither the bond investment nor its yield is guaranteed by the U.S. government. **High-yield bond investments** are generally subject to greater market fluctuations and risk of loss of income and principal than lower-yielding debt securities investments. Investments that track a benchmark **index** are professionally managed. However, the benchmark index itself is unmanaged and does not incur fees or expenses and cannot be purchased directly. **Investments in value stocks** may remain undervalued for extended periods of time, and the market may not recognize the intrinsic value of these securities. **Investments in growth stocks** may experience price volatility due to their sensitivity to market fluctuations and dependence on future earnings expectations. **Investments in companies with small or mid market capitalization** ("small caps" or "mid caps") may be subject to special risks given their characteristic narrow

markets, limited financial resources, and less liquid stocks, all of which may cause price volatility. **International/global investing** can involve special risks, such as political changes and currency fluctuations. These risks are heightened in emerging markets. A significant percentage of the underlying investments in **aggressive asset allocation portfolio investments** have a higher than average risk exposure. Investors should consider their risk tolerance carefully before choosing such a strategy. An **investment with multiple underlying investments** (which may include asset-allocation, lifestyle (risk based), lifecycle (target date) or custom blended investments) may be subject to the expenses of those underlying investments in addition to those of the investment itself. Investments may reside in the **specialty category** due to 1) allowable investment flexibility that precludes classification in standard asset categories and/or 2) investment concentration in a limited group of securities or industry sectors. Investments in this category may be more volatile than less-flexible and/or less-concentrated investments and may be appropriate as only a minor component in an investor's overall portfolio. Participants with a large ownership interest in a **company or employer stock investment** may have the potential to manipulate the value of units of this investment option through their trading practices. As a result, special transfer restrictions may apply. This type of investment option presents a higher degree of risk than diversified investment options under the plan because it invests in the securities of a single company.

Investments that invest more of their assets in a single issuer or industry sector (such as company stock or **sector investments**) involve additional risks, including unit price fluctuations, because of the increased concentration of investments.

A participant will be prohibited from transferring into most mutual funds and similar investments if they have transferred into and out of the same investment within the previous 60 days. Certain stable value, guaranteed interest, fixed income and other investments are not subject to this rule. This rule does not prohibit participants from transferring out of any investment at any time.

Target Date (lifecycle)

Generally these investment options are designed to be held beyond the presumed retirement date to offer a continuing investment option for the investor in retirement. The year in the investment option name refers to the approximate year an investor in the option would plan to retire and likely would stop making new contributions to the investment option. However, investors may choose a date other than their presumed retirement date to be more conservative or aggressive depending on their own risk tolerance. They are designed for participants who plan to withdraw the value of their accounts gradually after retirement. Each of these options follows its own asset allocation path ("glide path") to progressively reduce its equity exposure and become more conservative over time. Options may not reach their most conservative allocation until after their target date. Others may reach their most conservative allocation in their target date year. Investors should consider their own personal risk tolerance, circumstances and financial situation. These options should not be selected solely on a single factor such as age or retirement date. Please consult the prospectus (if applicable) pertaining to the options to determine if their glide path is consistent with your long-term financial plan. Target retirement date investment options' stated asset allocation may be subject to change. Investments in these options are not guaranteed and you may experience losses, including losses near, at, or after the target date. Additionally, there is no guarantee that the options will provide adequate income at and through retirement.

Investors should consider an investment's objectives, risks, charges and expenses carefully before investing. For this and other information, see a fact sheet (investment profile) or the prospectus, if applicable. You may obtain a prospectus or fact sheet from your plan sponsor or by visiting www.retiresmart.com. Read it carefully before investing.

Vanguard Target Retirement 2045 Fund VTIVX

Benchmark

Morningstar Lifetime Mod 2045 TR USD

Overall Morningstar Rating™

★★★★

Out of 198 Target-Date 2045 funds. An investment's overall Morningstar Rating, based on its risk-adjusted return, is a weighted average of its applicable 3-, 5-, and 10-year Ratings. See disclosure for details.

Morningstar Return

Above Average

Morningstar Risk

Average

Investment Objective & Strategy

From investment's prospectus

The investment seeks to provide capital appreciation and current income consistent with its current asset allocation.

The fund invests in a mix of Vanguard mutual funds according to an asset allocation strategy designed for investors planning to retire and leave the workforce in or within a few years of 2045 (the target year). The fund's asset allocation will become more conservative over time, meaning that the percentage of assets allocated to stocks will decrease while the percentage of assets allocated to bonds and other fixed income investments will increase.

Fees and Expenses as of 02-12-22

Prospectus Net Expense Ratio	0.08%
Total Annual Operating Expense	0.08%
Maximum Sales Charge	—
12b-1 Fee	—
Redemption Fee/Term	—

Waiver Data	Type	Exp. Date	%
—	—	—	—

Operations and Management

Fund Inception Date	10-27-03
Portfolio Manager(s)	William A. Coleman, CFA Walter Nejman
Name of Issuer	Vanguard
Telephone	800-662-7447
Web Site	www.vanguard.com

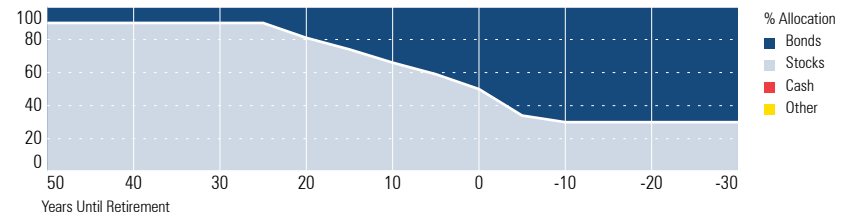
Benchmark Description: Morningstar Lifetime Mod 2045 TR USD

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 2045. 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.

Category Description: Target-Date 2045

Target-date portfolios provide diversified exposure to stocks, bonds, and cash for those investors who have a specific date in mind (in this case, the years 2041-2045) for retirement. These portfolios aim to provide investors with an optimal level of return and risk, based solely on the target date. Management adjusts the allocation among asset classes to more-conservative mixes as the target date approaches, following a preset glide path. A target-date portfolio is part of a series of funds offering multiple retirement dates to investors.

Allocation of Assets

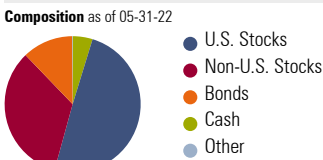


Performance

Trailing Returns	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Investment Return %	-18.82	-15.29	5.89	6.80	8.97	7.51
Benchmark Return %	-19.58	-16.28	4.53	6.03	8.28	—
Category Average %	-19.29	-15.63	5.40	6.36	8.31	6.89
Morningstar Rating™	—	—	★★★★	★★★★	★★★★	—
# of Funds in Category	—	—	198	171	85	—
Quarter End Returns as of 06-30-22	YTD	1 Year	3 Year	5 Year	10 Year	Since Inception
Fund Return %	-18.82	-15.29	5.89	6.80	8.97	7.51
Standardized Return %	-18.82	-15.29	5.89	6.80	8.97	7.51

Performance Disclosure: 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 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 visit the website listed under Operations and Management on this page.

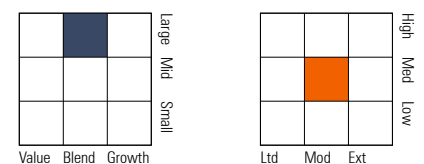
Portfolio Analysis as of 05-31-22



Top 10 Holdings as of 05-31-22

Top 10 Holdings	% Assets
Vanguard Total Stock Mkt Idx Instl Pls	51.33
Vanguard Total Intl Stock Index Inv	35.08
Vanguard Total Bond Market II Idx Inv	8.66
Vanguard Total Intl Bd II Idx Instl	3.87
Total Number of Holdings	6
Annual Turnover Ratio %	6.00
Total Fund Assets (\$mil)	63,948.54

Morningstar Style Box™ as of 05-31-22(E0) ; 05-31-22(F-I)



Morningstar Sectors as of 05-31-22

Morningstar Sectors	% Fund	S&P 500 %
Cyclical	35.46	28.47
Basic Materials	5.19	2.28
Consumer Cyclical	10.69	10.31
Financial Services	15.82	12.96
Real Estate	3.76	2.92
Sensitive	42.39	45.78
Communication Services	7.36	8.87
Energy	5.26	4.35
Industrials	10.75	8.31
Technology	19.02	24.25
Defensive	22.15	25.74
Consumer Defensive	6.94	7.41
Healthcare	12.14	15.23
Utilities	3.07	3.10

Principal Risks as of 05-31-22

Hedging Strategies, Credit and Counterparty, Prepayment (Call), Currency, Loss of Money, Not FDIC Insured, Country or Region, Income, Interest Rate, Market/Market Volatility, Equity Securities, Underlying Fund/Fund of Funds, Fixed-Income Securities, Management, Target Date