INFORMATION ABOUT INVESTMENT PROPOSAL TOOLS

This information is provided to help you understand the investment proposal, report, or analysis you received from your LPL financial professional.

For more information about investing risks, please visit www.lpl.com/InvestmentRiskLibrary

What should I ask my financial professional?

- What assumptions and limitations are involved in the investment proposal tool we are using?
- What inputs and data about my financial situation did we include in the tool? How did those affect the outcomes?
- What investments are considered in the overall analysis? Why did the tool suggest the investments in the report it generated?
- Does my report contain substitute or backfilled holdings?
- Is the benchmark used to compare holdings the right choice for this report? How would the returns look against a different benchmark?

What is an investment proposal tool?

An investment proposal tool is an interactive tool that generates potential investment strategies or portfolios and helps you and your financial professional analyze those strategies and make investment decisions. The tool uses information that you and your financial professional input into the tool, including your assets, your risk tolerance, your investment timeline, and other information. Based on your inputs and on simulations and statistical analyses about investments, the tool projects the likelihood of various investment outcomes over different time periods and market environments. The tool is designed to help you and your financial professional decide on an investment strategy, a specific portfolio, or a specific financial product (like a stock, mutual fund, or exchange-traded fund). The tool generates a customized report that you should discuss with your financial professional.

Will I achieve the same investment results as the proposal tool's report?

No. An investment proposal tool is not a guarantee of any specific returns, but is instead designed to show a statistical simulation using mathematical models of the likelihood of different investment outcomes. Results shown by a report will vary—potentially with each use and over time—because of different market conditions and changes in investment variables. The use of a proposal tool alone cannot determine the investments you should make. All investing carries the risk of loss, including the risk of a loss of your entire investment.

IMPORTANT*: The projections or other information generated by an investment analysis tool regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results.*

What is "hypothetical performance," and why is it important?

Simulating or calculating how a proposed portfolio of investments would have performed in the past or may perform in the future is hypothetical when it's not based on an actual funded portfolio, and the results weren't actually achieved. Projected performance cannot accurately predict future market conditions or resulting performance. Hypothetical past performance illustrations are created with the benefit of hindsight and can be manipulated by choosing investments with better performance, even if your financial professional was not recommending those investments at that time. Hypothetical performance does not reflect actual investment results and does not assure or guarantee future results. Because hypothetical results were not actually achieved by any client account, those results are not an indication of the ability or skill of your financial professional. Because of the inherent inability to predict future returns and the limitations

Where can I learn more?

Visit lpl.com/disclosures.html and scroll to the Investor Regulatory & Educational Resources section, or visit the SEC's website at Investor.gov. You should also carefully review LPL's Form ADV Brochure for your advisory program, and ask your financial professional any questions you may have.

on hypothetical past performance, you should not rely on any presentation of hypothetical performance as the primary basis for your investment decisions.

How does a proposal tool generate projections?

Most proposal tools use Monte Carlo analysis to run thousands of simulations that produce predicted future investment results based on statistical methodologies and probability distributions. Although a Monte Carlo simulation is a widely accepted methodology for making predictions, there is no guarantee that the predicted performance will be achieved.

Performance predictions are dependent upon the accuracy of the data and information you input into the tool. Predictions are also based on a series of assumptions that will not be true for an actual investment account. For example, the fees and expenses reflected in a proposal are different than fees actually charged. Predictions also assume that you will hold the proposed investments over the entire period shown, will not withdraw or add assets, and will not make different investments.

Other assumptions used will be specific to a particular proposal tool. You should understand the methodology and assumptions used by the tool, including the types of investments considered by the tool and whether the tool favors any types of investments.

How does a proposal tool generate hypothetical past performance?

Proposal tools typically generate hypothetical past performance by calculating the aggregate historical performance of the individual investments in the proposed portfolio. The tool calculates net performance using an investment advisory fee equal to either the fee for your proposed account or the highest fee that LPL charges in its advisory program, but the proposal does not reflect all of the expenses that will be charged to your account and that would reduce your performance returns.

Some tools use "substitute" performance for investments that do not have a performance history over a report's entire period. For example, if a tool includes a mutual fund that has been in existence for only five years in a report showing ten years of performance history, the tool may substitute another mutual fund or an investment index or benchmark for the first five years. Substituted performance is an additional layer of hypothetical information that will further reduce the accuracy of the projected results. Substituted holdings should be considered approximations for illustrative purposes only. Because you cannot invest directly an index, and index returns do not reflect fees and expenses of an actual investment product like a mutual fund, hypothetical past performance using a substitute is overstated.

In addition, most tools will compare investment results to a benchmark, often a securities index. Discretion to choose which benchmark a proposal report is compared against can make investment returns of a proposal report look comparatively more favorable.

How do fees affect an investment proposal?

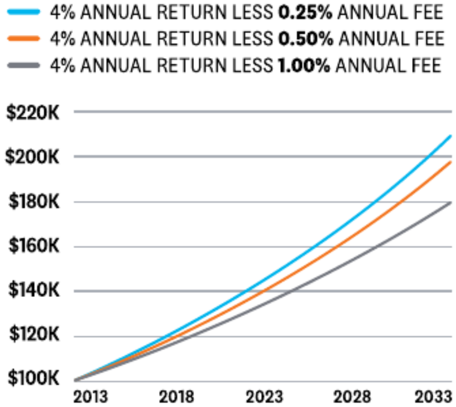
The report's returns may not include all fees and expenses that would reduce the performance of an actual account, including, but not limited to, advisory fees, manager fees, and/or transaction charges (if applicable); taxes; and other miscellaneous fees and expenses you may incur. Fees differ between LPL's advisory programs. Please visit lpl.com for more information, including a copy of the Account Packet and Form ADV Brochure for the program you are considering, as well as the applicable Miscellaneous Account and Service Fees Schedule.

Fees and expenses reduce your investment returns. The effects of fees on your long-term investment returns are compounding, meaning higher fees will cause you to earn relatively less on your investment over time. Below is a sample graph showing the compounding effect of fees.

Portfolio value from investing $100,000 over 20 years

In 20 years, 0.50% annual fees reduce the portfolio (orange line) by $10,000 compared with a portfolio with a 0.25% annual fee (blue line).

In 20 years, 1.00% annual fees reduce the portfolio (gray line) by nearly $30,000 compared with a portfolio with a 0.25% annual fee (blue line).



Source: www.investor.gov/introduction-investing/getting-started/understanding-fees

Vanguard Target Retirement 2030 Fund Investor LPL Reviewed Template - Focused Overview Report

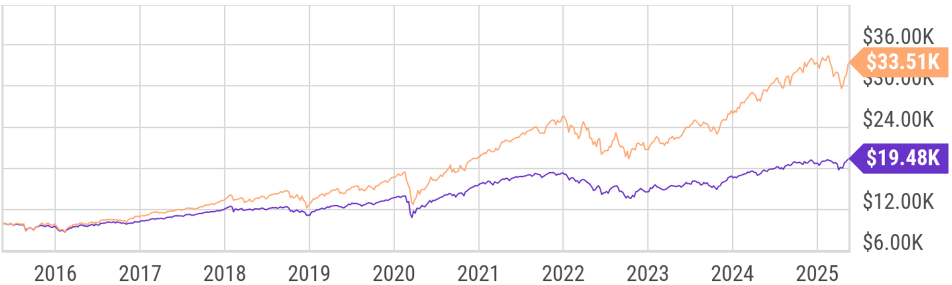
Prepared for YCharts by LPL Admin at LPL
May 20, 2025

For more information,
contact 1234567890, lpl@ycharts.com, or visit lpl.com

Vanguard Target Retirement 2030 Fund Investor LPL Reviewed Template - Focused Overview Report

Cumulative Return

May 19, 2015 through May 19, 2025



Basic Info

Category
Target-Date 2030

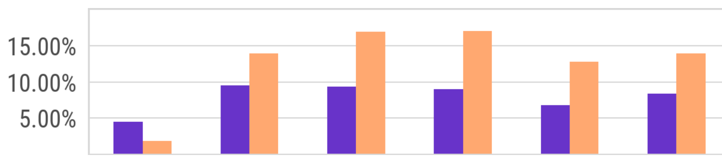
Benchmark
S&P 500 Total Return*

Prospectus Benchmark Index
None

*Benchmark information defined in disclosure section.

Periodic Return

Data as of: May 19, 2025



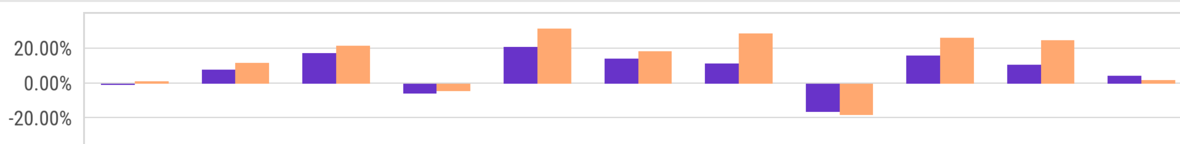
	YTD	1Y	3Y	5Y	10Y	15Y
Vanguard Target Retir..	4.54%	9.63%	9.42%	9.10%	6.90%	8.50%
Benchmark	1.92%	13.97%	16.98%	17.11%	12.86%	13.97%

Key Stats

Net Expense Ratio 0.08%	**Alpha vs Cat 5Y** 1.40
Dividend Yield 2.62%	**Beta vs Cat 5Y** 0.94
Max Drawdown 5Y 22.74%	**Up/Down Ratio 5Y** 0.8874

Annual Return

Data as of: May 19, 2025



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	YTD
Vanguard Target Ret..	-1.03%	7.85%	17.52%	-5.86%	21.07%	14.10%	11.38%	-16.27%	15.99%	10.67%	4.54%
Benchmark	1.38%	11.96%	21.83%	-4.38%	31.49%	18.40%	28.71%	-18.11%	26.29%	25.02%	1.92%

The performance data quoted presents past performance; past performance does not guarantee future results; the investment return and principal value of an investment will fluctuate; an investor's shares, when redeemed, may be worth more or less than their original cost; current performance may be lower or higher than the performance data quoted. The most recent month end performance data can be accessed at https://go.ycharts.com/fund_contact_info. (See the Standardized Returns section of this report for standardized returns information).

Standardized Returns Net of Max Fee

Data as of: Mar 31, 2025

Symbol	Name	Annlzd 1Y Total Ret Net of Max Fee (M)	Annlzd 3Y Total Ret Net of Max Fee (M)	Annlzd 5Y Total Ret Net of Max Fee (M)	Annlzd 10Y Total Ret Net of Max Fee (M)	Annlzd Total Rtns Since Incep Net of Max Fee (M)
VTHRX	Vanguard Target Retirement 2030 Fund I…	--	--	--	--	--

Standardized Returns Net of Proposed Fee

Data as of: Mar 31, 2025

Symbol	Name	Annlzd 1Y TR (M)	Annlzd 3Y TR (M)	Annlzd 5Y TR (M)	Annlzd 10Y TR (M)	Annlzd Total Rtns Since Incepti. (M)
VTHRX	Vanguard Target Retirement 2030 Fund I…	6.03%	4.51%	9.94%	6.70%	6.72%

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Performance Disclosure

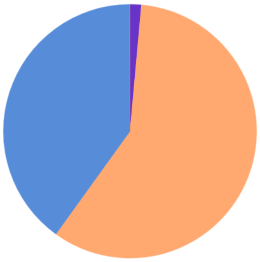
THIS REPORT IS NOT AN INVESTMENT PERFORMANCE REPORT. DO NOT RELY ON THIS REPORT AS PORTRAYING, OR CONTAINING PERFORMANCE OF, AN ACTUAL ACCOUNT. THIS REPORT SHOWS HYPOTHETICAL OR SIMULATED RETURNS OF PORTFOLIO(S) AND IS FOR ILLUSTRATIVE PURPOSES ONLY. This report is not intended to and does not predict or show the actual investment performance of any account. A portfolio represents an investment in a hypothetical weighted blend of securities which, together with other inputs, were selected by you and/or your Adviser and, accordingly, a portfolio should be used for illustrative purposes only.

Fundamentals

General	Vanguard Target Retireme..	Bmark		Vanguard Target Retireme..	Bmark
Dividend Yield (TTM)	2.62%	--	Expense Ratio	0.08%	--
Distribution Yield (TTM)	3.48%	--	Number of Holdings	6	--
Stock					
Weighted Average PE Ratio	19.57	--	Weighted Median ROA	10.54%	--
Weighted Average Price to Sales Ratio	1.934	--	Avg. Market Cap	96.98B	--
Weighted Average Price to Book Ratio	2.575	--	Weighed Avg. Debt to Capital	36.11	--
Weighted Median ROE	24.88%	--	Number of Stock Holdings	0	--
Bond					
Current Yield	3.49%	--	Average Credit Score	6.00	--
Yield to Maturity	4.70%	--	Average Price	93.64	--
Effective Duration	6.187	--	Number of Bond Holdings	0	--
Average Coupon	3.37%	--			

Asset Allocation

Data as of: March 31, 2025



	Vanguard Target Retirement 2030 Fund Investor	Bmark
Cash	1.45%	--
Stock	58.51%	--
Bond	39.97%	--

	Vanguard Target Retirement 2030 Fund Investor	Bmark
Convertible	0.03%	--
Preferred	0.00%	--
Other	0.04%	--

Stock Style Exposure

Data as of: March 31, 2025

	Vanguard Target Retirement 2...	Bmark
Lg Cap Value	19.74%	--
Lg Cap Blend	34.02%	--
Lg Cap Growth	20.58%	--

	Vanguard Target Retirement 2...	Bmark
Mid Cap Value	5.54%	--
Mid Cap Blend	8.17%	--
Mid Cap Growth	5.05%	--

	Vanguard Target Retirement 2...	Bmark
Sm Cap Value	2.33%	--
Sm Cap Blend	2.77%	--
Sm Cap Growth	1.80%	--

Bond Maturity Exposure

Data as of: March 31, 2025

	Vanguard Target Retirement 2030 Fund Investor	Bmark
Short Term	**0.05%**	**--**
1 to 7 Days	0.00%	--
8 to 30 Days	0.00%	--
31 to 90 Days	0.00%	--
91 to 182 Days	0.00%	--
183 to 364 Days	0.05%	--
Intermediate	**63.64%**	**--**
1 to 3 Years	22.60%	--
3 to 5 Years	16.84%	--
5 to 7 Years	12.22%	--
7 to 10 Years	11.98%	--

	Vanguard Target Retirement 2030 Fund Investor	Bmark
Long Term	**36.31%**	**--**
10 to 15 Years	5.26%	--
15 to 20 Years	7.00%	--
20 to 30 Years	22.60%	--
Over 30 Years	1.45%	--

Bond Credit Quality Exposure

Data as of: March 31, 2025

	Vanguard Target Retirement 2…	Bmark
AAA	58.26%	--
AA	9.92%	--
A	16.28%	--

	Vanguard Target Retirement 2…	Bmark
BBB	14.44%	--
BB	0.00%	--
B	0.00%	--

	Vanguard Target Retirement 2…	Bmark
Below B	0.00%	--
Not Rated	1.11%	--

Top 10 Holdings

Data as of: April 30, 2025

Symbol	Name	% Weight	Close Price (Daily)	Annlzd 1Y TR (D)
VSMPX	Vanguard Total Stock Market In.. Inst +	35.95%	267.52	13.23%
VTBIX	Vanguard Total Bond Market II …nvestor	26.74%	9.41	4.62%
VGTSX	Vanguard Total International St…und Inv	24.76%	21.41	10.62%
VTILX	Vanguard Total International Bo..Fd Inst	11.92%	26.44	5.32%
--	Vanguard Market Liquidity Fund	0.63%	--	--
--	USD Cash	0.01%	--	--

Risk Info

Data as of: April 30, 2025

		1Y	3Y	5Y	10Y	15Y
Alpha	**Vanguard Target Retirement 20…**	0.25	1.62	1.40	0.74	0.63
	Benchmark	--	--	--	--	--
Beta	**Vanguard Target Retirement 20…**	0.95	0.94	0.94	0.97	0.96
	Benchmark	--	--	--	--	--
Standard Deviation	**Vanguard Target Retirement 20…**	7.57%	10.86%	10.39%	11.29%	10.88%
	Benchmark	13.81%	15.40%	14.95%	15.90%	14.77%
Historical Sharpe	**Vanguard Target Retirement 20…**	0.7139	0.25	0.5558	0.4252	0.606
	Benchmark	0.521	0.502	0.8654	0.6573	0.7937
Historical Sortino	**Vanguard Target Retirement 20…**	1.134	0.3968	0.837	0.4745	0.695
	Benchmark	0.7027	0.7824	1.273	0.7457	0.9071
Max Drawdown	**Vanguard Target Retirement 20…**	9.64%	22.74%	22.74%	24.86%	24.86%
	Benchmark	18.75%	24.49%	24.49%	33.79%	33.79%
Monthly Value at Risk (VaR) 5%	**Vanguard Target Retirement 20…**	2.96%	4.84%	4.85%	4.81%	4.73%
	Benchmark	7.17%	7.01%	6.82%	6.69%	6.19%

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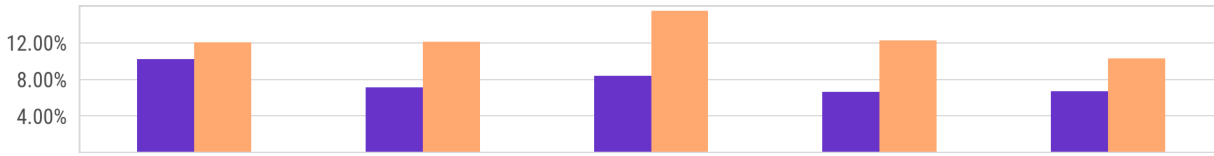
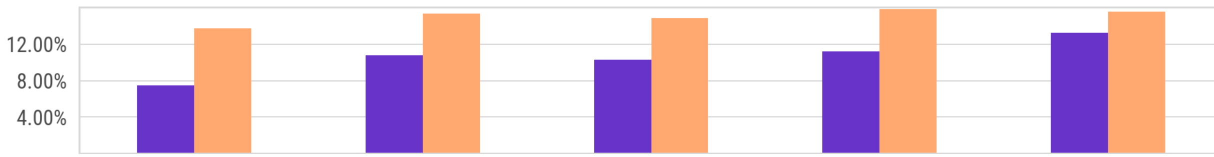
Risk/Reward

Data as of: April 30, 2025

Return	1Y	3Y	5Y	10Y	All time
Vanguard Target Ret...	10.31%	7.16%	8.45%	6.66%	6.75%
Benchmark	12.10%	12.18%	15.61%	12.32%	10.35%



Standard Deviation



Vanguard Target Ret...	7.57%	10.86%	10.39%	11.29%	13.32%
Benchmark	13.81%	15.40%	14.95%	15.90%	15.64%

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Important Information About This Report

This report is supplemental material, and when applicable, must be accompanied by a prospectus or equivalent document. These disclosures contain important information for an investor and their financial professional. They cover key terms, criteria, methodology, assumptions, risks, and limitations outlined in this report.

Investors should carefully consider an investment's objectives, risks, charges and expenses. This and other important information is contained in the prospectus or equivalent document which can be obtained from their financial professional and should be read carefully before investing.

This report should not be solely relied upon for making investment decisions. Investing carries inherent risks, including the potential for financial loss. It is advisable to seek guidance from legal, tax, or other advisors, including your financial professional, before making any investment decisions. This report is not an official account statement or other official document of a financial professional or any other party, and it does not constitute legal or tax advice; investors should consult with their legal and tax advisors for such advice.

The data contained or used in generating this report has not been audited or verified by your financial professional or any other party, and any use of this report should be made with this understanding. All data included in this report is based on the latest data available to YCharts as of the indicated release date, may not be an accurate reflection of current data for the report securities or any portfolios included and is subject to change without notice.

Standardized Returns

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Standardized returns are annualized total returns that reflect the reinvestment of dividends and capital gains and ongoing fund expenses for all fund types. Load-adjusted annualized returns also reflect the deduction of any sales charges associated with purchasing or selling mutual fund shares, but do not reflect the deduction of taxes. If reflected, taxes would have had a negative effect on the performance quoted.

Investments in money market funds are neither insured nor guaranteed by the Federal Deposit Insurance Corporation (FDIC), National Credit Union Administration (NCUA), or any other governmental agency. Although a money-market fund seeks to preserve the value of its investment at $1 per share, it is possible to lose money. Non-bank deposit investments are not FDIC- or NCUA-insured, are not guaranteed by the bank/financial institution, and are subject to risk, including loss of principal invested.

Load-adjusted Annualized Returns

Data as of: March 31, 2025

Security Name	Inception Date	1Y	3Y	5Y	10Y	Since Inception
Vanguard Target Retirement 2030 Fund Investor	Jun. 07, 2006	6.03%	4.51%	9.94%	6.70%	6.66%
Vanguard Total Bond Market II Index Fund Investor	Jan. 26, 2009	4.92%	0.49%	-0.47%	1.34%	2.60%
Vanguard Total International Bond II Index Fd Inst	Feb. 17, 2021	3.46%	1.25%	--	--	-0.57%
Vanguard Total International Stock Index Fund Inv	Apr. 29, 1996	6.27%	4.59%	11.37%	5.14%	4.87%
Vanguard Total Stock Market Index Fund Inst +	Apr. 28, 2015	7.08%	8.12%	18.10%	11.76%	10.20%

Benchmark Information

If included, the benchmark used in this report is based on the primary security being used and is provided as a comparison tool for informational purposes only. If the primary security is a portfolio, the benchmark was chosen by the creator of the portfolio. Portfolio benchmarks can comprise market indexes, mutual funds or exchange-traded funds. For all other securities, either the YCharts categorized benchmark or the broad asset class benchmark is displayed, depending on what the creator of the report selected within YCharts. Market indexes are unmanaged, and investors cannot actually invest directly into them. Unlike investments, market indexes do not incur management fees, charges, or expenses.

Benchmarks can vary widely, and it is important to choose an index that has similar characteristics to the security it is being used to represent. Category benchmarks may or may not be the same benchmark identified in a fund's prospectus. In no way should the performance of a benchmark be considered indicative or a guarantee of the future performance of an actual security, be considered indicative of the actual performance achieved by a security or viewed as a substitute for the actual security in your portfolio. Actual results of a security may differ substantially from the historical performance shown for a benchmark and may include an individual client incurring a loss. Past performance is no guarantee of future results. Market indexes are unmanaged, and investors cannot invest directly in them. Unlike investments, market indexes do not incur management fees, charges or expenses.

Security Name	Benchmark Name
Vanguard Target Retirement 2030 Fund Investor	S&P 500 Total Return

Annualized Returns

Data as of: March 31, 2025

Security Name	Weight	1Y	3Y	5Y	10Y	Since Inception
S&P 500 Total Return	--	**8.25%**	**9.06%**	**18.59%**	**12.50%**	**10.39%**

Benchmark Components

Data as of: March 31, 2025

^SPXTR S&P 500 Total Return	The S&P 500 index covers the 500 largest companies that are in the United States. These companies can vary across various sectors. The S&P 500 is one of the most important indices in the world as it widely tracks how the United States stock market is performing. The S&P 500 has had several major drawdowns that have been greater than 40% during recessionary periods including in 1974, 2002, and 2009.

Expense Ratios, Sales Charges & Standardized Yields

Data as of: March 31, 2025

Security Name	Max Front Load	Max Def Load	Max Red Fee	Prosp Exp Ratio	Prosp Gross Exp Ratio	30-Day SEC Yield	30-Day Unsub SEC Yield
Vanguard Target Retirement 2030 Fund Investor	--	--	--	0.08%	0.08%	2.82% (April 30, 2025)	2.82% (April 30, 2025)
Vanguard Total Bond Market II Index Fund Investor	--	--	--	0.09%	0.09%	4.34% (April 30, 2025)	4.34% (April 30, 2025)
Vanguard Total International Bond II Index Fd Inst	--	--	--	0.07%	0.07%	3.05% (April 30, 2025)	3.05% (April 30, 2025)
Vanguard Total International Stock Index Fund Inv	0.00%	--	0.00%	0.17%	0.17%	--	--
Vanguard Total Stock Market Index Fund Inst +	--	--	--	0.02%	0.02%	1.31% (April 30, 2025)	1.31% (April 30, 2025)

Security Type Disclosures

Fund Type Comparisons: Publicly offered funds, including closed-end funds, exchange-traded funds (ETFs), mutual funds, money market funds, and unit investment trusts (UITs), have many similarities, but also many important differences. In general, publicly offered funds are investment companies registered with and regulated by 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.

Mutual Funds: Mutual funds are known as open-end investment companies because investors can buy and sell shares at any time. The fund will create new shares to meet increased demand and buy back shares from investors who want to sell. Mutual funds calculate the value of one share, known as the net asset value (NAV), once a day, when the investment markets close. All purchases and sales are recorded at the NAV. To calculate its NAV, a fund adds up the total value of its investment holdings, subtracts the fund's fees and expenses, and divides that amount by the number of shares that investors are currently holding. 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. Mutual funds may also have 12b-1 fees.

Investment Risks

Investments in securities involve investment risks, including possible loss of principal and fluctuation in value.

The investment return and principal value of securities and other financial instruments will fluctuate so that an investor's investments, when sold or redeemed, may be worth more or less than the original cost. Investment results are not guaranteed. No investment strategy (including asset allocation and diversification strategies) can guarantee a profit or protect against a loss of principal.

International/Emerging Market Equities: Investing in securities from global and emerging markets carries heightened risks. These encompass currency fluctuations, political instability, and the challenges tied to diverse accounting standards. Emerging markets can exacerbate these risks.

Sector Strategies: Portfolios concentrating solely on one industry or sector entail added risks. The lack of diversity in industries exposes investors to amplified industry-specific vulnerabilities.

Non-Diversified Strategies: Portfolios heavily invested in a single issuer come with extra risks, including heightened share price oscillations due to the concentrated nature of investments.

Small-Cap Equities: Investing in small-company stocks introduces extra risks due to their greater likelihood of failure and relative lack of establishment compared to larger, established companies. Such stocks have historically displayed more pronounced market volatility.

Mid-Cap Equities: Portfolios involving companies with market capitalization below $10 billion come with additional risks. Securities from these companies can be less stable and less easily tradable than those of larger corporations.

High-Yield Bonds: Investing in lower-rated debt securities brings additional risks because of the lower credit quality of these securities. Be prepared for heightened volatility and an increased risk of default.

Tax-Free Municipal Bonds: Income from tax-free municipal bond funds might still be subject to state, local, and Alternative Minimum Taxation.

Bonds: Bonds are susceptible to interest rate fluctuations. Rising bond interest rates lead to declines in the value of existing bonds in a portfolio. Bond portfolios can undergo value shifts due to general interest rate changes.

Investment Risks

Hedge Funds: Hedge fund investing comes with specialized risks dependent on the strategies undertaken by the fund manager. These may include distressed or event-driven approaches, long/short strategies, arbitrage, international exposure, and the use of leverage, options, and derivatives. Hedge funds can involve substantial risk and are suitable only for financially capable investors willing to bear potential losses.

Bank Loan/Senior Debt: Bank loans and senior debt share the risks associated with fixed income, such as interest rate and default risks. Often falling below investment-grade, these securities hold a high default risk. They can also be less tradable. Funds investing in these assets are often highly leveraged, heightening the risk of return volatility.

Exchange Traded Notes (ETNs): ETNs are unsecured debt obligations, and their repayment hinges on the issuer's ability to fulfill obligations. ETNs typically do not provide interest payments.

Leveraged ETFs: Leveraged investments aim to achieve multiples of an index's return but can lead to returns greater or less than the index's performance, compounded over a specific period. Leverage introduces amplified risk.

Short Positions: Holding short positions brings theoretically unlimited losses if the position moves unfavorably. Brokers might demand additional collateral, and managers might need to close out short positions at unfavorable times to limit losses.

Long-Short: Long-short funds, utilizing strategies like leverage, short selling, and derivatives, can carry higher risk, volatility, and expenses compared to traditional investment-focused funds.

Liquidity Risk: Closed-end fund and ETF trading can halt due to market conditions, impacting an investor's ability to sell.

Market Price Risk: The market price of ETFs and closed-end funds, traded on the secondary market, is influenced by supply and demand, independent of NAV. This leads to trading at a premium or discount, affecting investor value.

Market Risk: Fluctuations in ETFs' market prices stem from factors like specific securities or general investor sentiment. Be mindful of potential market fluctuations and their impact.

Target-Date Funds: These funds invest in other mutual funds, designed for investors planning to retire around a target date. The fund's strategy becomes more conservative over time. Principal value isn't guaranteed, even at the target date.

Money Market Funds: An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation (FDIC), the National Credit Union Association (NCUA), or any other governmental agency; although money market funds seeks to preserve the value of the investment at $1 per share, it is possible to lose money. Non-bank deposit investments are not FDIC- or NCUA-insured, are not guaranteed by the bank/financial institution, and are subject to risk, including loss of principal invested.

Definitions

Alpha vs Category: Alpha vs category metrics are calculated over various time periods against the category benchmark. They measure how well an investment has performed relative to its category benchmark. Positive alpha indicates that the investment outperformed the benchmark, suggesting the manager or strategy added value, whereas negative alpha indicates underperformance compared to the category benchmark.

Definitions

Annualized Price Return: Annualized returns are period returns re-scaled to show the compound annual growth rate of the security. This allows investors to compare returns of different assets that they have owned for different lengths of time. It also gives the investor an idea of the returns that they would have returned per year if they had been invested in the security during the time frame of the annualized metric.

Annualized Total Returns: Annualized Total returns are period returns re-scaled to show the compound annual growth rate of the security. This allows investors to compare returns of different assets that they have owned for different lengths of time. It also gives the investor an idea of the returns that they would have returned per year if they had been invested in the security during the time frame of the annualized metric.

Asset Allocation: Asset allocation reflects the asset class weightings of the fund or portfolio. The Other category includes security types that are not neatly classified in the other asset classes or cannot be classified by YCharts as a result of missing data. Allocations may not sum to 100% due to rounding.

Average Coupon: Average Coupon is the average rate of the coupons of the bonds in a fund, weighted based each bond holding's size relative to the portfolio. Average coupon indicates whether a fund is carrying a greater amount of high or low coupon bonds. While higher coupon bonds offer more return, they may carry additional risk.

Average Credit Quality Score: Short def: The Average Credit Quality Score is an average of the credit rating of the bonds held by a fund. The average is calculated by assigning a value to each underlying bond in the fund based on the relative default rate, which is determined by the credit rating of the bond. It assumes that the odds of default increase as the credit rating decreases. The average default rate is then used to determine the average credit quality of the fund.

Average Market Cap: Market capitalization represents the total value of a company as determined by multiplying its share price by the total number of shares outstanding. It is commonly used to classify companies by size, such as large-cap, mid-cap, or small-cap. Weighted average market capitalization reflects the average market cap of the securities in a fund or portfolio, weighted by their respective proportions. It provides insight into a fund or portfolio's exposure to different market-cap segments, helping to assess its overall size profile and risk characteristics.

Average Price: Average price indicates whether a fund favors investing in bonds below or above face value. A higher value (above 100) would suggest the latter.

Beta vs Category: Beta vs category metrics are calculated over various time periods against the category benchmark. They measure an investment's sensitivity to the overall movements of its category benchmark. A beta equal to 1 indicates that the investment tends to move in line with the benchmark, suggesting a similar level of risk, a beta greater than 1 indicates that the investment is more volatile than the benchmark, suggesting higher risk, and a beta less than 1 indicates that the investment is less volatile than the benchmark, suggesting lower risk. A list of YCharts category benchmarks can be viewed here https://ycharts.com/glossary/terms/ycharts_category_benchmarks

Bond Maturity Exposure: Bond Maturity Exposure provides a breakdown of the fixed income securities held within a portfolio based on their bond maturity dates. It highlights the allocation of investments across various maturity periods, indicating the distribution of bonds that are due to mature within specific time frames. Fixed income securities are grouped into three categories - short-term, intermediate-term, and long-term maturities. Short-term bonds generally have maturities of one to three years, intermediate-term bonds range from four to ten years, and long-term bonds have maturities beyond ten years.

Definitions

Credit Quality Exposure: Credit quality exposure metrics show the breakdown of a fund or portfolio's fixed income securities across various credit rating categories. Credit ratings, provided by independent agencies, guide investors in understanding the risk associated with bonds or debt instruments. Each rating agency has its own alphabetical designations and most range from high (AAA to AA), to medium (A to BBB), and low (BB, B, CCC, CC, C, and D). Higher ratings indicate lower risk, while lower ratings signify higher potential return, higher risk and potential financial distress. YCharts receives credit quality exposure data for funds from a data provider who calculates the percentage for each rating category by weighting each holding’s credit rating by its market value then averaging by the sum of holding values. An average rating is computed for holdings that have multiple ratings. The distribution is based upon available credit ratings from recognized credit rating agencies such as a Nationally Recognized Statistical Rating Organization (NRSRO) in the U.S. A full list of NRSROs can be found at https://www.sec.gov/about/divisions-offices/office-credit-ratings/current-nrsros.

Current Yield: The Current Yield metric is available for mutual funds and ETFs on YCharts. It reflects the income of the bond holdings in a fund relative to the fund's price. Current Yield is an annualized figure and can be interpreted as the income an investor could expect to earn from the bond holdings of the fund if it was held for one year.

Distribution Yield: Distribution yield is a financial metric that measures the income from distributions relative to the value of an investment. It shows how much a fund or portfolio has paid out in distributions each year relative to its price, NAV (Net Asset Value) or level (for portfolios). Distribution yield is available for the following security types on YCharts: mutual funds, ETFs, closed end funds, and portfolios.

Dividend Yield: Dividend yield is a financial metric that measures the income from dividends relative to the value of an investment. It shows how much a company, fund, or portfolio has paid out in dividends each year relative to its price, NAV (Net Asset Value) or level (for portfolios). Dividend yield is available for the following security types on YCharts: stocks, mutual funds, ETFs, Closed End Funds (CEFs), and portfolios.

Effective Duration: Effective duration is a measure of risk for funds that hold bonds with embedded options. It estimates the amount the NAV of a fund will fall when interest rates rise by 1% or will increase when interest rates fall by 1%. This acts as a measure of the interest rate sensitivity of a fund, and takes into account put, call, and prepayment options.

Historical Sharpe Ratio: The Sharpe Ratio measures the risk-adjusted return of a security. This is a useful metric for analyzing the return you are receiving on a security in comparison to the amount of volatility expected. The historical sharpe ratio uses historical returns to calculate the return and standard deviation.

Load-adjusted Returns: Load-adjusted returns are a holding period return calculation that takes into account any sales charges or loads associated with purchasing or selling mutual fund shares. They assume that an investor purchased shares at the beginning of a period, paid all applicable sales charges and completely liquidated their investment at the end of the period, paying all applicable back-end charges and redemption fees.

Max Drawdown: Max drawdown is an indicator of the risk of a portfolio chosen based on a certain strategy. It measures the largest single drop from peak to bottom in the value of a portfolio before a new peak is achieved.

Maximum Deferred Load: A deferred load is a fee that is charged when an investor sells certain classes of fund shares before a specified date. The maximum deferred load refers to the maximum amount a fund may charge an investor when they redeem their investment.

Maximum Front Load: A front-end load is a sales charge or commission that an investor pays up front, at the time they purchase the fund. The maximum front load refers to the maximum amount a fund may charge an investor when they purchase a fund.

Definitions

Maximum Redemption Fee: The maximum redemption fee is the maximum amount a fund may charge if an investor redeems their investment within a specific time period after purchasing a fund, for example, 30, 180, or 365 days. The Securities and Exchange Commission limits redemption fees to a maximum of 2% of the sales amount.

Net Expense Ratio: The expense ratio represents the cost of owning a fund. It expresses the percent of assets deducted each fiscal year to cover various fund expenses, including 12b-1 fees, management and administrative charges, operational expenditures, and all other costs tied to managing and operating a fund, less any fee waivers or other rebates. Transaction fees, brokerage costs and sales charges are not reflected in the expense ratio. In contrast, the gross expense ratio does not incorporate any fee waivers or other adjustments that were in effect during the time period. It is important to look at both the expense ratio and gross expense ratio when evaluating a fund. For example, if a fund has an expense ratio of 2% and a gross expense ratio of 3%, 1% of potential fees or other expenses were waived. There is no guarantee that these rebates or reimbursements will continue in the future, and if they are discontinued, the cost of owning the fund represented by the expense ratio would be 3%.

Number of bond holdings: Total number of unique bond holdings of a fund.

Number of holdings: Number of holdings is the sum of all the unique holdings of a fund, equity, fixed income, derivative, or alternative investments included. It's important to note that if a mutual fund holds both common and preferred stock of a company the number of holdings would be 2.

Number of stock holdings: Total number of unique stock holdings of a fund. It's important to note that if a fund holds both common and preferred stock of a company, the company would be counted twice.

Price: The price of a security measures the cost to purchase 1 share of a security. For a company, price can be multiplied by shares outstanding to find the market capitalization (value of the company).

Prospectus Gross Expense Ratio: Sourced from a fund’s most recent prospectus, the Prospectus Gross Expense Ratio represents the cost of owning a fund before any adjustments or waivers are applied.

Prospectus Net Expense Ratio: Sourced from a fund’s most recent prospectus, the Prospectus Net Expense Ratio represents the cost of owning a fund after any adjustments or waivers are applied.

SEC Yield: SEC Yield is the yield on a fund over the last 30 days. It is determined by first calculating the net investment income over the 30 day period, which covers all dividends and interest earned less any fund expenses. The net investment income is then divided by the maximum price per share on the last day of the period. Since yield often remains consistent over time, SEC Yield is commonly used to measure the potential income earned when holding a fund for a 12 month period. SEC Yields may also be available in an unsubsidized format, which does not account for any expense reimbursements or fee waivers. It’s important to note that while most funds calculate SEC yield over a 30 day period, some money market funds may calculate SEC yield over a 7 day period. Our data provider receives SEC Yield data directly from the fund managers.

Sortino Ratio: The Sortino Ratio is named after Frank Sortino, who is widely recognized for his use of downside risk. The Sortino ratio is very similar to the Sharpe ratio in that it is trying to capture the risk of an investment over a certain period. However, the Sortino Ratio does this by capturing the "downside" risk, by ignoring the upside volatility. The theory being investors should only be concerned with harmful (negative) volatility.

Definitions

Standard Deviation: Standard deviation measures how much an investment's return deviates from its average over a specific period. Higher standard deviation indicates more volatility, while lower standard deviation signifies steadier returns. YCharts makes five types of standard deviation metrics over different time periods available: daily, monthly, quarterly, annualized monthly, and annualized quarterly.

Stock Style Exposure: Stock Style Exposure shows how a portfolio's holdings are distributed across companies of different sizes (based on their market capitalization) and investment styles (value, blend or growth). YCharts calculates the stock style data based on the calculation methods seen below: Stock size is calculated by first taking the constituents of the Russell 3000 and sorting by market cap. They are then broken into size based on their percentile of overall market cap. Large cap is made up of the largest 70% of stocks in the Russell 3000, stocks with a market cap greater than the 70% cut off are grouped into large cap. Stocks in the next 15% are grouped into mid cap. Stocks in the bottom 15% are grouped into small cap. Stock style is calculated using the average Z-Score of 6 metrics: 1. Price to Book Value (3Y Mean) 2. PE Ratio (3Y Mean) 3. PS Ratio (3Y Mean) 4. Return on Equity (3Y Mean) 5. Revenue (3Y Growth) 6. Dividend Yield Each are compared to an index based on their stocks size, Large Cap are compared to the S&P 500, Mid Cap are compared to the S&P 400, and Small Cap are compared to the S&P 600. The Z-Score is calculated using the formula Z-Score = [(Stock Value - Index Average) / Index Standard Deviation] for the first 5 metrics. Dividend Yield Z-Score is calculated as Dividend Yield Z-Score = [((Stock Value - Index Average) / Index Standard Deviation) - 1]. Once the Z-Score has been calculated for all 6 metrics, the average is taken and the following breakpoints are used: 1. Z-Score > 0.3 = Growth 2. Z-Score < -0.3 = Value 3. Z-Score between -0.3 and 0.3 = Core

Total Return: The Total return is the change in price over a specific period of time that includes dividends and distributions paid.

Total Return Level: The total return level allows investors to view the performance of a security inclusive of both price appreciation and dividends/distributions. Total return level is seen as the most accurate calculation that produces returns consistent with most other sources.

Value At Risk (VaR): The VaR calculates the potential loss of an investment with a given time frame and confidence level. For example, if a security has a 5% Daily VaR (All) of 4%: There is 95% confidence that the security will not have a larger loss than 4% in one day. Since this metric says (All) we are calculating this using all available price history for the security. In another example, if a security has a Monthly VaR 1% (3Y Lookback) of 15%: There is 99% confidence that the security will not have a larger loss than 15% in one month. This is calculated using the past 3 years of historical prices. Keep in mind that VaR does not give you any information about the magnitude of the potential loss in excess of the VaR. For a calculation that give you this information you can view Expected Shortfall.

Weighted Average Debt to Capital: The weighted average debt-to-capital ratio measures the proportion of a fund's total debt in relation to its total capital with each underlying holding being taken into account based on weight in the fund's portfolio. This ratio helps assess the fund's overall financial leverage and its potential risk exposure stemming from its debt obligations.

Weighted Average PE Ratio: A weighted average of each underlying holding’s share price relative to the sales per share. Stocks that have Revenue per Share < 0 are excluded in this calculation.

Weighted Average Price to Book Ratio: The weighted average price-to-book ratio for a fund is a measure that quantifies the valuation of the fund's holdings relative to their book values, while accounting for the proportion of each holding in the fund's total portfolio. It is calculated by multiplying the price-to-book ratio of each individual holding by its portfolio weight, summing these products across all holdings, and then dividing by the total portfolio weight.

Weighted Average Price to Sales Ratio: The weighted average price-to-sales ratio of a portfolio is a financial metric that gauges the overall valuation of the assets within a portfolio in relation to their combined sales revenue. This calculation considers the market value of each asset, assigning more influence to larger holdings, and computes the average valuation relative to the total sales generated by all assets

Definitions

Weighted Median Return on Assets: Return on Assets (ROA) measures how efficiently a company is using its assets to generate profits. It indicates how much profit is being earned for each dollar of assets owned. It is measured as Net Income / Average Total assets of the last 5 quarters. Weighted Median ROA of a portfolio is calculated by taking into account both the individual ROA of each investment and its weight in the overall portfolio.

Weighted Median Return on Equity: Return on Equity (ROE) is an indication of how well a company is using its shareholders' money to generate profits. It is measured as Net Income / Average TTM Shareholder’s Equity. Weighted Median ROE is calculated by taking into account both the individual ROE of each investment and its weight in the overall portfolio. It is the middle value of the ROEs of each individual portfolio asset when arranged in ascending order after being multiplied by their respective weights.

Yield to Maturity: Yield to maturity is the internal rate of return earned when buying the bond today at the market price, assuming the buyer holds the bond to maturity, and all the coupon and principal payments are made. It is expressed as an annualized figure. YCharts calculates Yield to Maturity for bond funds by weighting the remaining coupon and principal payments relative to the size of the portfolio.