

# SPDR® S&P 500 ETF Trust vs. Vanguard Total Stock Market ETF Comparison

Prepared for Advisor by Dave Lubnik  
March 5, 2021

**For more information,  
contact 312 339 2190 or visit [ycharts.com](https://ycharts.com)**

2021 YCharts, Inc. All Rights Reserved. YCharts, Inc. (YCharts) is not registered with the U.S. Securities and Exchange Commission (or with the securities regulatory authority or body of any state or any other jurisdiction) as an investment adviser, broker-dealer or in any other capacity, and does not purport to provide investment advice or make investment recommendations. This report has been generated using data manually input by the creator of this report combined with data and calculations from YCharts.com and is intended solely to assist you or your investment or other adviser(s) in conducting investment research. You should not construe this report as an offer to buy or sell, as a solicitation of an offer to buy or sell, or as a recommendation to buy, sell, hold or trade, any security or other financial instrument. THE IMPORTANT DISCLOSURES FOUND AT THE END OF THIS REPORT (WHICH INCLUDE DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT) ARE AN INTEGRAL PART OF THIS REPORT AND MUST BE READ IN CONJUNCTION WITH YOUR REVIEW OF THIS REPORT. For further information regarding your use of this report, please go to: <https://get.ycharts.com/disclosure/>

Built with **YCHARTS**

# SPDR® S&P 500 ETF Trust vs. Vanguard Total Stock Market ETF Comparison

## Cumulative Return

March 05, 2011 through March 05, 2021



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

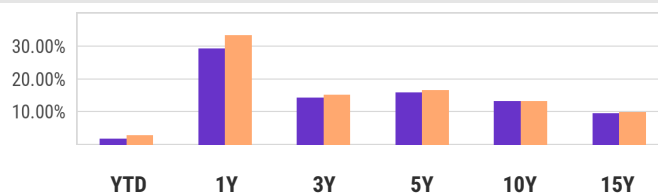
## Basic Info

<b>SPDR® S&amp;P 500 ETF Trust</b>	
Benchmark	S&P 500 Total Return*
Ticker	SPY
<b>Vanguard Total Stock Market ETF</b>	
Ticker	VTI

\*Benchmark information defined in disclosure section.

## Periodic Return

Data as of March 3, 2021



<b>SPY</b>	2.02%	29.46%	14.47%	16.04%	13.31%	9.70%
<b>VTI</b>	2.94%	33.55%	15.28%	16.69%	13.42%	10.00%

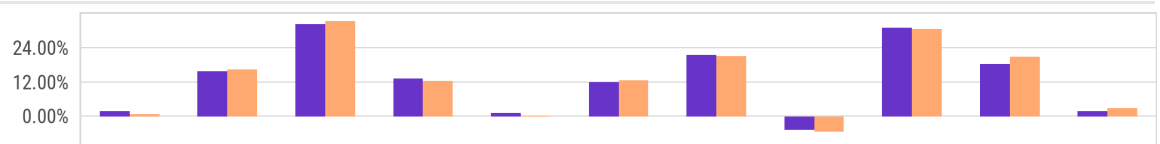
The performance data quoted presents past performance; past performance does not guarantee future results; the investment return and principal value of an investment will fluctuate; an investor's shares, when redeemed, may be worth more or less than their original cost; current performance may be lower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

## Key Stats

	SPY	VTI
<b>Expense Ratio</b>	0.09%	0.03%
<b>Cash Net Allocation</b>	0.09%	0.00%
<b>Alpha (5Y)</b>	-0.12	-0.18
<b>Distribution Yield</b>	1.51%	1.41%
<b>Beta (5Y)</b>	0.97	1.02
<b>YTD Total Returns</b>	2.02%	2.94%

## Annual Return

Data as of March 3, 2021

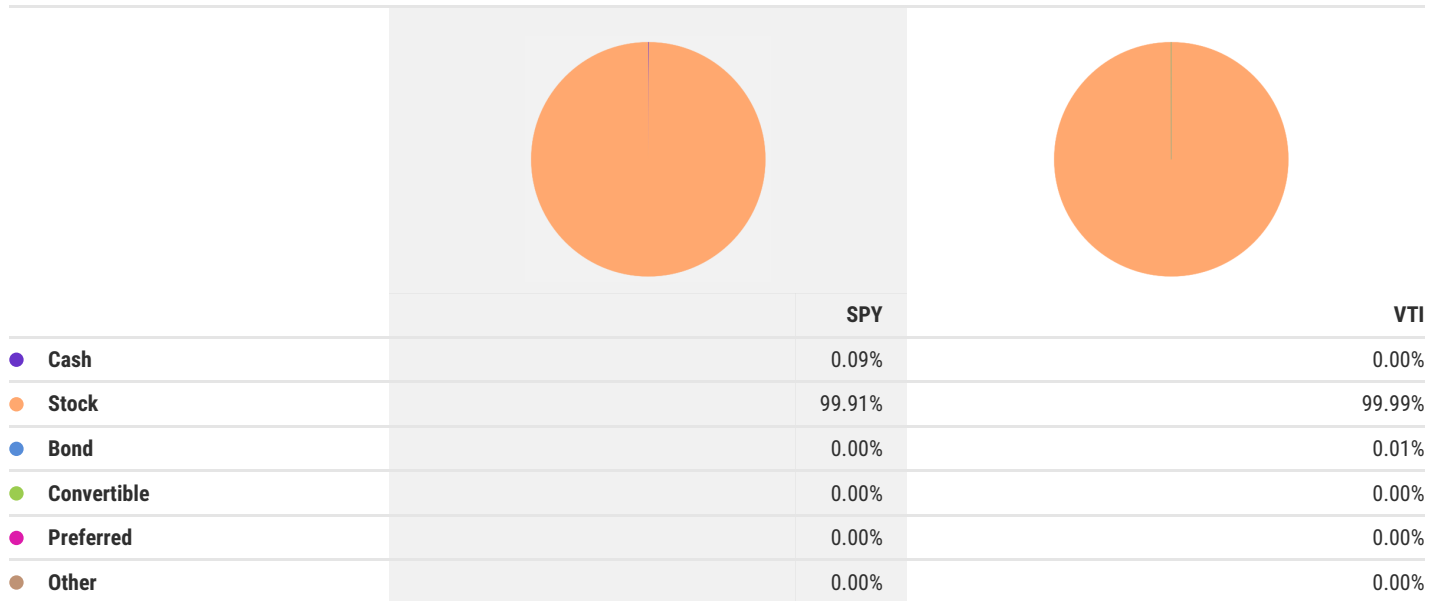


<b>SPY</b>	1.89%	15.99%	32.31%	13.46%	1.25%	12.00%	21.70%	-4.56%	31.22%	18.37%	2.02%
<b>VTI</b>	0.97%	16.45%	33.45%	12.54%	0.36%	12.83%	21.21%	-5.21%	30.67%	21.03%	2.94%

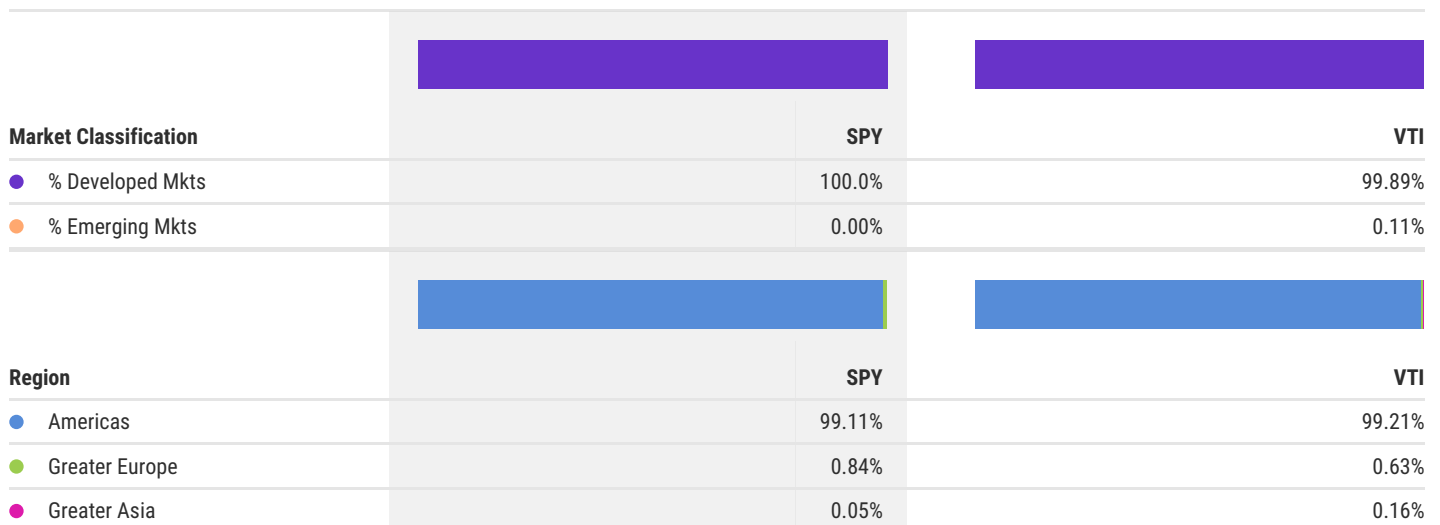
The performance data quoted presents past performance; past performance does not guarantee future results; the investment return and principal value of an investment will fluctuate; an investor's shares, when redeemed, may be worth more or less than their original cost; current performance may be lower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

2021 YCharts, Inc. All Rights Reserved. YCharts, Inc. ("YCharts") is not registered with the U.S. Securities and Exchange Commission (or with the securities regulatory authority or body of any state or any other jurisdiction) as an investment adviser, broker-dealer or in any other capacity, and does not purport to provide investment advice or make investment recommendations. This report has been generated using data manually input by the creator of this report combined with data and calculations from YCharts.com and is intended solely to assist you or your investment or other adviser(s) in conducting investment research. You should not construe this report as an offer to buy or sell, as a solicitation of an offer to buy or sell, or as a recommendation to buy, sell, hold or trade, any security or other financial instrument. THE IMPORTANT DISCLOSURES FOUND AT THE END OF THIS REPORT (WHICH INCLUDE DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT) ARE AN INTEGRAL PART OF THIS REPORT AND MUST BE READ IN CONJUNCTION WITH YOUR REVIEW OF THIS REPORT. For further information regarding your use of this report, please go to: <https://get.ycharts.com/disclosure/>

## Asset Allocation

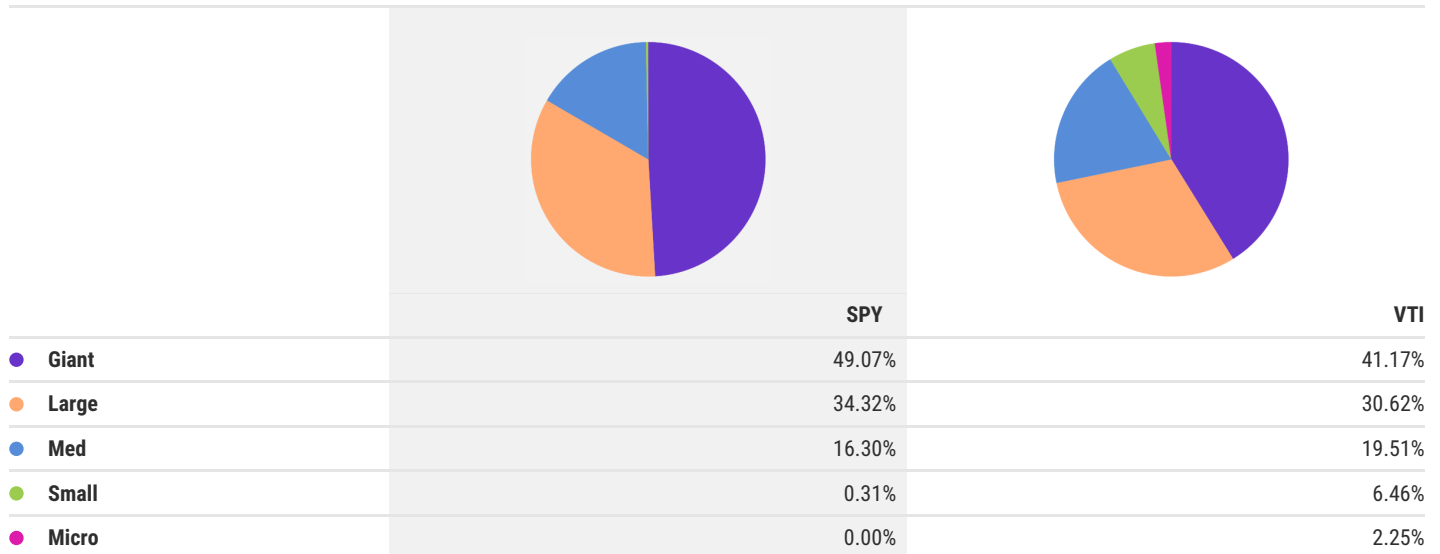


## Geographic Exposure

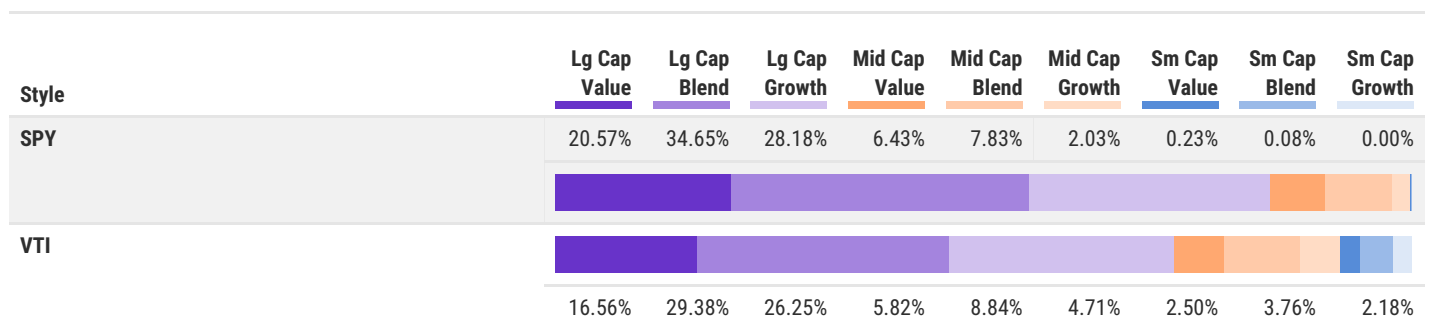


2021 YCharts, Inc. All Rights Reserved. YCharts, Inc. ("YCharts") is not registered with the U.S. Securities and Exchange Commission (or with the securities regulatory authority or body of any state or any other jurisdiction) as an investment adviser, broker-dealer or in any other capacity, and does not purport to provide investment advice or make investment recommendations. This report has been generated using data manually input by the creator of this report combined with data and calculations from YCharts.com and is intended solely to assist you or your investment or other adviser(s) in conducting investment research. You should not construe this report as an offer to buy or sell, as a solicitation of an offer to buy or sell, or as a recommendation to buy, sell, hold or trade, any security or other financial instrument. THE IMPORTANT DISCLOSURES FOUND AT THE END OF THIS REPORT (WHICH INCLUDE DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT) ARE AN INTEGRAL PART OF THIS REPORT AND MUST BE READ IN CONJUNCTION WITH YOUR REVIEW OF THIS REPORT. For further information regarding your use of this report, please go to: <https://get.ycharts.com/disclosure/>

## Market Capitalization



## Stock Style Exposure



2021 YCharts, Inc. All Rights Reserved. YCharts, Inc. ("YCharts") is not registered with the U.S. Securities and Exchange Commission (or with the securities regulatory authority or body of any state or any other jurisdiction) as an investment adviser, broker-dealer or in any other capacity, and does not purport to provide investment advice or make investment recommendations. This report has been generated using data manually input by the creator of this report combined with data and calculations from YCharts.com and is intended solely to assist you or your investment or other adviser(s) in conducting investment research. You should not construe this report as an offer to buy or sell, as a solicitation of an offer to buy or sell, or as a recommendation to buy, sell, hold or trade, any security or other financial instrument. THE IMPORTANT DISCLOSURES FOUND AT THE END OF THIS REPORT (WHICH INCLUDE DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT) ARE AN INTEGRAL PART OF THIS REPORT AND MUST BE READ IN CONJUNCTION WITH YOUR REVIEW OF THIS REPORT. For further information regarding your use of this report, please go to: <https://get.ycharts.com/disclosure/>

## Stock Sector Exposure

		SPY		VTI
<b>Cyclical</b>		31.23%		31.11%
Basic Materials		2.30%		2.38%
Consumer Cyclical		12.04%		12.40%
Financial Services		14.43%		12.89%
Real Estate		2.46%		3.45%
<b>Sensitive</b>		46.48%		45.63%
Comm. Services		11.03%		10.19%
Energy		2.89%		2.26%
Industrials		8.86%		9.11%
Technology		23.71%		24.07%
<b>Defensive</b>		22.29%		23.26%
Consumer Defensive		6.47%		6.08%
HealthCare		13.27%		14.57%
Utilities		2.55%		2.61%

## Bond Sector Exposure

		SPY		VTI
<b>Cash</b>		100.00%		0.00%
<b>Corporate</b>		0.00%		2.74%
<b>Derivative</b>		0.00%		0.00%
<b>Government</b>		0.00%		97.26%
<b>Municipal</b>		0.00%		0.00%
<b>Securitized</b>		0.00%		0.00%

2021 YCharts, Inc. All Rights Reserved. YCharts, Inc. ("YCharts") is not registered with the U.S. Securities and Exchange Commission (or with the securities regulatory authority or body of any state or any other jurisdiction) as an investment adviser, broker-dealer or in any other capacity, and does not purport to provide investment advice or make investment recommendations. This report has been generated using data manually input by the creator of this report combined with data and calculations from YCharts.com and is intended solely to assist you or your investment or other adviser(s) in conducting investment research. You should not construe this report as an offer to buy or sell, as a solicitation of an offer to buy or sell, or as a recommendation to buy, sell, hold or trade, any security or other financial instrument. THE IMPORTANT DISCLOSURES FOUND AT THE END OF THIS REPORT (WHICH INCLUDE DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT) ARE AN INTEGRAL PART OF THIS REPORT AND MUST BE READ IN CONJUNCTION WITH YOUR REVIEW OF THIS REPORT. For further information regarding your use of this report, please go to: <https://get.ycharts.com/disclosure/>

## Bond Maturity Exposure

	SPY	VTI
<b>Short Term</b>	--	100.0%
1 to 7 Days	--	0.00%
8 to 30 Days	--	0.00%
31 to 90 Days	--	0.00%
91 to 182 Days	--	100.0%
183 to 264 Days	--	0.00%
<b>Intermediate</b>	--	0.00%
1 to 3 Years	--	0.00%
3 to 5 Years	--	0.00%
5 to 7 Years	--	0.00%
7 to 10 Years	--	0.00%
<b>Long Term</b>	--	0.00%
10 to 15 Years	--	0.00%
15 to 20 Years	--	0.00%
20 to 30 Years	--	0.00%
Over 30 Years	--	0.00%

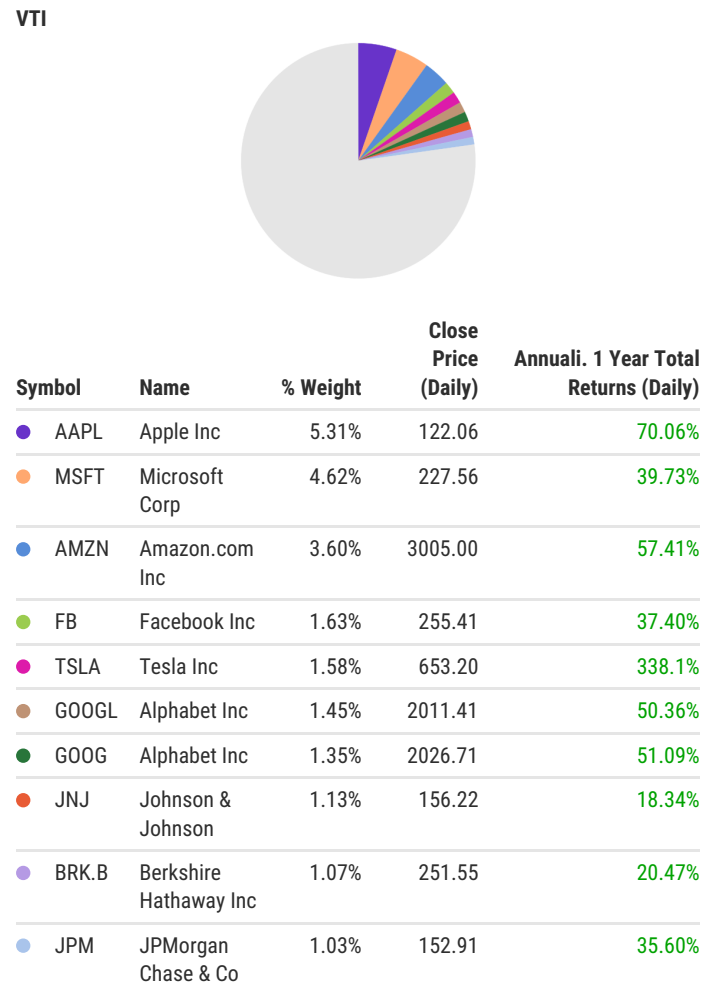
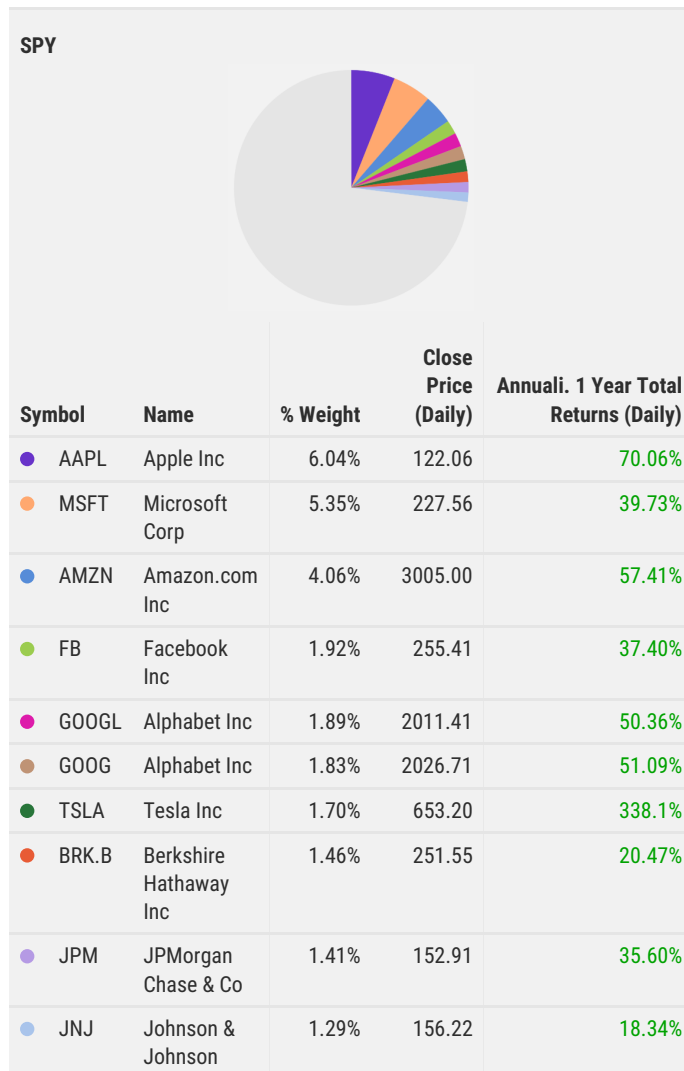
## Credit Quality Exposure

Rating	AAA	AA	A	BBB	BB	B	Below B	Not Rated
SPY	--	--	--	--	--	--	--	--
VTI	--	--	--	--	--	--	--	--

2021 YCharts, Inc. All Rights Reserved. YCharts, Inc. ("YCharts") is not registered with the U.S. Securities and Exchange Commission (or with the securities regulatory authority or body of any state or any other jurisdiction) as an investment adviser, broker-dealer or in any other capacity, and does not purport to provide investment advice or make investment recommendations. This report has been generated using data manually input by the creator of this report combined with data and calculations from YCharts.com and is intended solely to assist you or your investment or other adviser(s) in conducting investment research. You should not construe this report as an offer to buy or sell, as a solicitation of an offer to buy or sell, or as a recommendation to buy, sell, hold or trade, any security or other financial instrument. THE IMPORTANT DISCLOSURES FOUND AT THE END OF THIS REPORT (WHICH INCLUDE DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT) ARE AN INTEGRAL PART OF THIS REPORT AND MUST BE READ IN CONJUNCTION WITH YOUR REVIEW OF THIS REPORT. For further information regarding your use of this report, please go to: <https://get.ycharts.com/disclosure/>

## Top 10 Holdings

Data as of Feb. 25, 2021



*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*

2021 YCharts, Inc. All Rights Reserved. YCharts, Inc. ("YCharts") is not registered with the U.S. Securities and Exchange Commission (or with the securities regulatory authority or body of any state or any other jurisdiction) as an investment adviser, broker-dealer or in any other capacity, and does not purport to provide investment advice or make investment recommendations. This report has been generated using data manually input by the creator of this report combined with data and calculations from YCharts.com and is intended solely to assist you or your investment or other adviser(s) in conducting investment research. You should not construe this report as an offer to buy or sell, as a solicitation of an offer to buy or sell, or as a recommendation to buy, sell, hold or trade, any security or other financial instrument. THE IMPORTANT DISCLOSURES FOUND AT THE END OF THIS REPORT (WHICH INCLUDE DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT) ARE AN INTEGRAL PART OF THIS REPORT AND MUST BE READ IN CONJUNCTION WITH YOUR REVIEW OF THIS REPORT. For further information regarding your use of this report, please go to: <https://get.ycharts.com/disclosure/>

## Risk Info

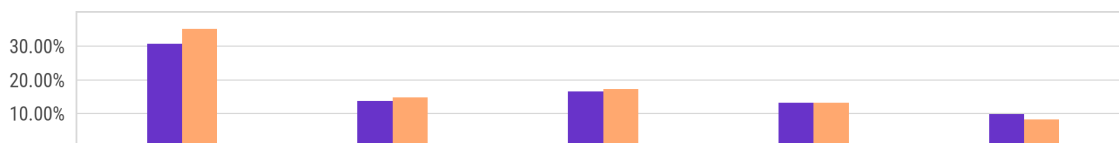
Data as of Jan. 31, 2021

		3Y	5Y	10Y	15Y
Alpha	SPY	-0.47	-0.12	0.10	-0.08
	VTI	-0.19	-0.18	-0.31	-0.09
Beta	SPY	0.96	0.97	0.97	0.98
	VTI	1.02	1.02	1.02	1.01
Standard Deviation	SPY	20.30%	16.42%	14.89%	16.99%
	VTI	21.22%	17.15%	15.55%	17.64%
Historical Sharpe	SPY	0.5933	0.9872	0.9284	0.5805
	VTI	0.6158	0.9925	0.9028	0.5808
Historical Sortino	SPY	0.5728	0.8884	0.9745	0.615
	VTI	0.5898	0.8885	0.9419	0.6131
Max Drawdown	SPY	33.70%	33.70%	33.70%	55.20%
	VTI	35.00%	35.00%	35.00%	55.45%
Monthly Value at Risk (VaR) 5%	SPY	7.92%	5.35%	5.90%	6.91%
	VTI	8.44%	5.45%	6.10%	7.14%

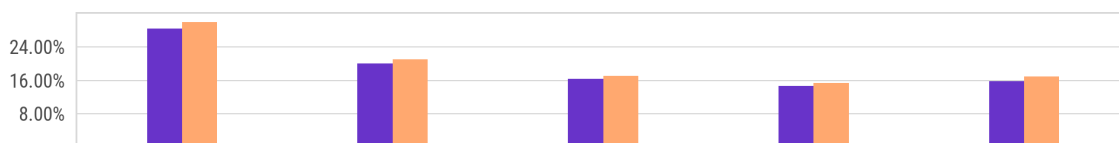
## Risk/Reward

Data as of Feb. 28, 2021

Return	1Y	3Y	5Y	10Y	All time
● SPY	30.83%	14.00%	16.71%	13.31%	10.04%
● VTI	35.31%	15.02%	17.46%	13.44%	8.51%



## Standard Deviation



● SPY	28.53%	20.21%	16.43%	14.83%	15.87%
● VTI	29.97%	21.17%	17.18%	15.50%	17.07%

\*Benchmark information defined in disclosure section.

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

2021 YCharts, Inc. All Rights Reserved. YCharts, Inc. ("YCharts") is not registered with the U.S. Securities and Exchange Commission (or with the securities regulatory authority or body of any state or any other jurisdiction) as an investment adviser, broker-dealer or in any other capacity, and does not purport to provide investment advice or make investment recommendations. This report has been generated using data manually input by the creator of this report combined with data and calculations from YCharts.com and is intended solely to assist you or your investment or other adviser(s) in conducting investment research. You should not construe this report as an offer to buy or sell, as a solicitation of an offer to buy or sell, or as a recommendation to buy, sell, hold or trade, any security or other financial instrument. THE IMPORTANT DISCLOSURES FOUND AT THE END OF THIS REPORT (WHICH INCLUDE DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT) ARE AN INTEGRAL PART OF THIS REPORT AND MUST BE READ IN CONJUNCTION WITH YOUR REVIEW OF THIS REPORT. For further information regarding your use of this report, please go to: <https://get.ycharts.com/disclosure/>



## Fundamentals

General	SPY	VTI
Dividend Yield (TTM)	1.51%	1.41%
Distribution Yield (TTM)	1.51%	1.41%
Expense Ratio	0.09%	0.03%
Number of Holdings	506	3639
<b>Stock</b>		
Weighted Average PE Ratio	27.09	27.11
Weighted Average Price to Sales Ratio	2.763	2.657
Weighted Average Price to Book Ratio	3.778	3.780
Weighted Median ROE	26.52%	22.55%
Weighted Median ROA	8.60%	6.97%
Avg. Market Cap	167.29B	98.73B
Weighed Avg. Debt to Capital	44.89	44.07
Number of Stock Holdings	505	3628
<b>Bond</b>		
Current Yield	--	--
Yield to Maturity	--	--
Effective Duration	--	--
Average Coupon	--	--
Average Credit Score	--	--
Average Price	--	--
Number of Bond Holdings	0	1

2021 YCharts, Inc. All Rights Reserved. YCharts, Inc. ("YCharts") is not registered with the U.S. Securities and Exchange Commission (or with the securities regulatory authority or body of any state or any other jurisdiction) as an investment adviser, broker-dealer or in any other capacity, and does not purport to provide investment advice or make investment recommendations. This report has been generated using data manually input by the creator of this report combined with data and calculations from YCharts.com and is intended solely to assist you or your investment or other adviser(s) in conducting investment research. You should not construe this report as an offer to buy or sell, as a solicitation of an offer to buy or sell, or as a recommendation to buy, sell, hold or trade, any security or other financial instrument. THE IMPORTANT DISCLOSURES FOUND AT THE END OF THIS REPORT (WHICH INCLUDE DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT) ARE AN INTEGRAL PART OF THIS REPORT AND MUST BE READ IN CONJUNCTION WITH YOUR REVIEW OF THIS REPORT. For further information regarding your use of this report, please go to: <https://get.ycharts.com/disclosure/>

## Definitions

**Allocations and Exposure Data:** All hypothetical portfolio attributes are calculated as weighted averages of the underlying holdings using the target weights input by the creator of this report. The underlying securities' attributes are based on data in YCharts, Inc. provided by Morningstar, Inc. For individual stock positions the entire weight is assigned to the corresponding sector, market cap group, style, etc.

**Alpha:** Alpha measures the risk and market-adjusted returns for the portfolio. The metric is calculated on the specified lookback period using the benchmark that is set for the portfolio. When your PDF report includes an ETF or Mutual Fund, the alpha is calculated vs. the category benchmark.

Note: Risk free rate = average 1 month treasury rate throughout the lookback period.

**Formula:** Alpha = Annualized security return - risk free rate - beta \* (annualized benchmark return - risk free rate) \* 100

**Avg. Market Cap:** Market capitalization is the share price multiplied by the total number of shares outstanding. For the portfolio, an average of the underlying holdings' market cap is taken.

**Benchmark:** The benchmark used in this report was chosen by the creator of the report. The benchmark is displayed for comparison reasons and is used to calculate portfolio level risk data when necessary. Underlying holdings risk data is computed using specific benchmarks based on that security's asset classification as outlined in the table at [ycharts.com/support/data/answer/broad\\_asset\\_class\\_benchmark](https://ycharts.com/support/data/answer/broad_asset_class_benchmark)

**Beta:** Beta measures the movement of the portfolio in comparison to the benchmark based on the lookback period. It is a statistical measure that can be used to measure the volatility of price movements. When your PDF report includes an ETF or Mutual Fund, the beta is calculated vs. the category benchmark.

**Formula:** Beta = Covariance ( Portfolio Return , Benchmark Return) / Variance (Benchmark Return)

**Dividend Yield (TTM):** For the underlying holdings of the portfolio, the dividend yield measures the total amount of dividends per share paid over the last 12 months, divided by the price per share of the security. To calculate the portfolio's dividend yield, a weighted average of the underlying holdings' dividend yield is taken.

**Distribution Yield (TTM):** Measures the total amount of distributions received from common dividends paid in the underlying holdings over the last 12 months.

**Expense Ratio:** A measure of the fees charged by an Asset Manager to the investors that own shares of the fund. The value is a percentage

and represents the portion of the investor's assets that are paid to the fund company on an annual basis. Any expense ratio shown is only inclusive of the underlying fees in the securities included in the hypothetical portfolio, and as such should be considered for illustrative purposes only. These fees do not include additional commissions, loads, transaction, or advisory fees. All fee data is collected from Morningstar Inc.

**Historical Sharpe:** Sharpe measures the risk-adjusted return for the specified lookback period.

**Formula:** Sharpe = (Average monthly return over lookback period) / (Historical standard deviation)

**Historical Sortino:** Sortino Ratio measures the downside risk-adjusted outperformance of the portfolio versus the benchmark.

**Formula:** Historical Sortino = (Average Monthly Returns - risk free rate) / downside deviation

**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).

**Formula:** Max Drawdown = (Peak value before largest drop - Lowest value before new high established) / (Peak value before largest drop)

**Portfolio:** All portfolios represent hypothetical blended investments of weighted securities as designated by the creator of this report and should be used for illustrative purposes only and should not be considered performance reports. They are calculated by taking a weighted average of the target weights and the securities total return, assuming all dividends reinvested, since the latest rebalance date. These portfolios are assumed to rebalance to the exact designated weights at each calendar quarter or month end – whichever is chosen when setting up the portfolio. No transaction costs, taxes, or advisory fees are included. Portfolio holdings are weighted by percentage, not whole share numbers.

**Portfolio Rebalance:** Each portfolio listed on this report contains a rebalance frequency. This can be selected when you create the portfolio on YCharts. The portfolios are rebalanced to the proper target weights at each target rebalance point. For monthly rebalancing, the portfolio will rebalance to the target weight at the end of each calendar month. For quarterly rebalancing, the portfolio will rebalance to the target weight at the end of each calendar quarter (March 31st, June 30th, September 30th, December 31st). For annual rebalancing, the portfolio will rebalance to the target weight at the end of each calendar year. Lastly, if the portfolio never rebalances, the target weights are implemented at the portfolio inception date, but will not change after that.

2021 YCharts, Inc. All Rights Reserved. YCharts, Inc. ("YCharts") is not registered with the U.S. Securities and Exchange Commission (or with the securities regulatory authority or body of any state or any other jurisdiction) as an investment adviser, broker-dealer or in any other capacity, and does not purport to provide investment advice or make investment recommendations. This report has been generated using data manually input by the creator of this report combined with data and calculations from YCharts.com and is intended solely to assist you or your investment or other adviser(s) in conducting investment research. You should not construe this report as an offer to buy or sell, as a solicitation of an offer to buy or sell, or as a recommendation to buy, sell, hold or trade, any security or other financial instrument. THE IMPORTANT DISCLOSURES FOUND AT THE END OF THIS REPORT (WHICH INCLUDE DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT) ARE AN INTEGRAL PART OF THIS REPORT AND MUST BE READ IN CONJUNCTION WITH YOUR REVIEW OF THIS REPORT. For further information regarding your use of this report, please go to: <https://get.ycharts.com/disclosure/>

## Definitions (continued)

**Portfolio Weights:** All stated portfolio weights are based on allocation choices input by the creator of this report. These weights represent the values used at rebalance periods and not necessarily the implied weights at the time this report was generated. All weightings ignore the concept of whole shares and instead uses the exact percentage chosen when setting up the portfolio.

**Rebalancing:** Rebalancing is conducted on either a quarterly or monthly basis, as selected by the creator of this report. Weights may drift away from the target allocations between rebalance periods.

**Returns:** All returns are hypothetical and should not be considered performance reporting. The hypothetical returns displayed are based on weighted calculations of the underlying holdings' returns and other selections by the creator of this report. Returns assume all dividends and distributions are reinvested on the corresponding ex-date. Returns are not audited and should not be considered performance reporting, as they are hypothetical in nature.

**Risk Calculation:** All risk calculations are for illustrative purposes only. They are calculated at the portfolio level using a benchmark selected by the creator of this report. At the security level, risk metrics are calculated by YCharts using the methodology outlined at [www.ycharts.com/support](http://www.ycharts.com/support)

**Standard Deviation:** Standard deviation measures the range of return values that you can statistically expect from your portfolio compared to its mean return. This measure is annualized for the specified lookback period.

**Formula:** Standard Deviation =  $\text{SQRT}(\text{Variance of Monthly Returns for Lookback Period})$

**Weighted Avg. Debt to Capital:** The debt to capital for underlying stocks is calculated as the total long-term debt divided by the capital of the firm. Capital is measured as the sum of common equity, preferred equity, and long term debt. For the portfolio, the weighted average is taken of the underlying holdings' debt to capital.

**Weighted Average PE Ratio:** A weighted average of each underlying holding's share price relative to the net income per share. Stocks that have EPS < 0 are excluded in this calculation.

**Weighted Average Price to Book Ratio:** A weighted average of each underlying holding's share price relative to the book value per share. Stocks that have Book Value per Share < 0 are excluded in this calculation.

**Weighted Average Price to Sales 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.

**Yield:** The stated yield for the hypothetical portfolio is based on the weighted average of trailing 12-month yields for the underlying securities. It is no indication or guarantee of future yield.

**7-Day SEC Yield:** Annualized yield calculated using interest and dividends earned and paid out over a 7-day period. It is primarily used for money market funds. The unsubsidized version of this yield reflects what the value would be without any fee waivers or expense reimbursements.

**30-Day SEC Yield:** Annualized yield calculated using net investment income per share earned over a 30-day period. The unsubsidized version of this yield reflects what the value would be without any fee waivers or expense reimbursements.

## Disclosure

### IMPORTANT DISCLOSURES

This report does not reflect the performance of any account actually managed by your Adviser. This is supplemental material, and when applicable, should be accompanied by a prospectus or equivalent document.

The data contained in or used in generating this report has not been audited or verified by your Adviser or any other party, and any use of this report should be made with this understanding. This report is not an official account statement or other official document of your Adviser or any other party.

This report does not constitute legal or tax advice. Please consult with your legal and tax advisors for such advice.

**INVESTMENTS IN SECURITIES INVOLVE INVESTMENT RISKS, INCLUDING POSSIBLE LOSS OF PRINCIPAL AND FLUCTUATION IN VALUE.** See "INVESTMENT RISKS" below for a brief summary of certain risks. 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.

**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.

The performance of a portfolio is calculated by taking a weighted average of the stated target weights and the securities' total return, assuming reinvestment of all dividends and other distributions on the related ex-date, since the latest rebalance date. The portfolio(s) portrayed in this report are assumed to rebalance to the exact designated weights on a monthly, quarterly or annual basis, whichever you and/or your Adviser selected in generating this report. The performance illustrated in this report may assume that rebalancing occurred in a manner different from how your Adviser rebalances a client portfolio. Your Adviser may recommend rebalancing when an asset class varies from its targeted allocation. In general, your Adviser reinvests dividends generated by investments. The way your Adviser invests dividends may be different than how the portfolio(s) invest dividends.

All stated target weights are based on allocation choices input by your and/or your Adviser. These weights represent the values used at rebalance periods. All weightings ignore the concept of whole shares and instead use the exact percentage chosen when creating the portfolio(s).

Unless otherwise noted, no transaction costs (e.g., commissions, sales loads), taxes, or advisory fees are deducted from the performance results generated by the portfolios(s). Any expense ratio shown is inclusive of the underlying fees in the securities included in the portfolio(s) (as reported by Morningstar Inc.), and as such should be considered for illustrative purposes only. As discussed above, such fees do not include transaction costs (e.g., commissions, sales loads), taxes, or advisory fees.

The stated yield for a hypothetical portfolio is based on the weighted average of trailing 12-month yields for the underlying securities. It is no indication or guarantee of future yield.

**ACCORDINGLY, ALL portfolio RETURNS ARE HYPOTHETICAL OR SIMULATED AND SHOULD NOT BE CONSIDERED PERFORMANCE REPORTING.** No representation is made that your investments will achieve results similar to those shown, and actual performance results may differ materially from those shown. Returns portrayed in this report do not reflect actual trading and investment activities, but are hypothetical or simulated results of a hypothetical portfolio over the time period indicated and do not reflect the performance of actual accounts managed by your Adviser or any other person. The mutual funds and other components of the hypothetical portfolio(s) were selected with the full benefit of hindsight, after their performance during the time period was known. In general, hypothetical returns generally exceed the results of client portfolios actually managed by advisers due to several factors, including the fact that actual portfolio allocations differed from the allocations represented by the market indices used to create the hypothetical portfolios over the time periods shown, new research was applied at different times to the relevant indices, and index performance does not reflect the deduction of any fees and expenses. Results also assume that asset allocations would not have changed over time and in response to market conditions, which is likely to have occurred if an actual account had been managed during the time period shown.

2021 YCharts, Inc. All Rights Reserved. YCharts, Inc. ("YCharts") is not registered with the U.S. Securities and Exchange Commission (or with the securities regulatory authority or body of any state or any other jurisdiction) as an investment adviser, broker-dealer or in any other capacity, and does not purport to provide investment advice or make investment recommendations. This report has been generated using data manually input by the creator of this report combined with data and calculations from YCharts.com and is intended solely to assist you or your investment or other adviser(s) in conducting investment research. You should not construe this report as an offer to buy or sell, as a solicitation of an offer to buy or sell, or as a recommendation to buy, sell, hold or trade, any security or other financial instrument. THE IMPORTANT DISCLOSURES FOUND AT THE END OF THIS REPORT (WHICH INCLUDE DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT) ARE AN INTEGRAL PART OF THIS REPORT AND MUST BE READ IN CONJUNCTION WITH YOUR REVIEW OF THIS REPORT. For further information regarding your use of this report, please go to: <https://get.ycharts.com/disclosure/>

## Disclosure

**PAST PERFORMANCE IS NOT INDICATIVE OF FUTURE RESULTS.** To the extent this report portrays historical performance of particular securities or other financial instruments, past performance of such securities or other instruments is not indicative of future results. Further, when reviewing past performance records of actual accounts, it is important to note that different accounts (even if they are managed pursuant to the same strategy), can have varying results. The reasons for this include: 1) the period of time in which the accounts are active; 2) the timing of contributions and withdrawals; 3) the account size; 4) the minimum investment requirements and/or withdrawal restrictions; 5) the rate of advisory, brokerage commissions and transaction fees charged to an account; and 6) restrictions or limitations on whether the account can be rebalanced annually, quarterly or otherwise.

**ALL RISK CALCULATIONS ARE FOR ILLUSTRATIVE PURPOSES ONLY.** They are calculated at the portfolio level using a benchmark (discussed below) selected by you and/or your Adviser. The benchmark is displayed for comparison purposes and is used to calculate portfolio level risk data when necessary.

For a glossary of terms relating to risk calculations that may be used in this report, see "DEFINITIONS," below.

**DO NOT RELY UPON THIS REPORT FOR DETERMINING THE VALUE OF YOUR ASSETS.** This report was generated based on information provided by you and by various other sources. If your Adviser generated this report, you should consult with your Adviser to determine what sources of information were used by it in connection with generating this report besides information that was provided by you. You should refer to official final account statements or other final official documents you receive from your Adviser or your other financial services providers when determining the value of your assets.

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

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

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

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

**Bonds:** Bonds are subject to interest rate risk. As the prevailing level of bond interest rates rise, the value of bonds already held in a portfolio declines. Portfolios that hold bonds are subject to declines and increases in value due to general changes in interest rates.

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

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

2021 YCharts, Inc. All Rights Reserved. YCharts, Inc. ("YCharts") is not registered with the U.S. Securities and Exchange Commission (or with the securities regulatory authority or body of any state or any other jurisdiction) as an investment adviser, broker-dealer or in any other capacity, and does not purport to provide investment advice or make investment recommendations. This report has been generated using data manually input by the creator of this report combined with data and calculations from YCharts.com and is intended solely to assist you or your investment or other adviser(s) in conducting investment research. You should not construe this report as an offer to buy or sell, as a solicitation of an offer to buy or sell, or as a recommendation to buy, sell, hold or trade, any security or other financial instrument. THE IMPORTANT DISCLOSURES FOUND AT THE END OF THIS REPORT (WHICH INCLUDE DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT) ARE AN INTEGRAL PART OF THIS REPORT AND MUST BE READ IN CONJUNCTION WITH YOUR REVIEW OF THIS REPORT. For further information regarding your use of this report, please go to: <https://get.ycharts.com/disclosure/>

## Disclosure

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

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

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

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

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

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

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

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

**Money Market Funds:** Investments in these funds are not guaranteed by the FDIC or any other government agency. You can lose money by investing in these funds. The fund strives to preserve your investment, however, it can not guarantee to do so.

### INDEXES AND BENCHMARK DISCLOSURES

Indices and benchmarks are unmanaged and cannot be invested in directly. Returns represent past performance, are not a guarantee of future performance, and are not indicative of any specific investment. Index return information is provided by vendors and although deemed reliable, is not guaranteed by YCharts, your Adviser or any other person. Benchmark returns may or may not be adjusted to reflect ongoing expenses such as sales charges. An investment portfolio may differ significantly from the securities in the benchmark. Due to timing of information, benchmarks may be adjusted after the publication of this report. Following is a brief description of the common market indexes and benchmarks.

**Bloomberg Barclays Municipal Bond Index:** Covers the USD-denominated long-term tax exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and prefunded bonds.

**Bloomberg Barclays U.S. Aggregate Index:** Covers the USD-denominated, investment-grade, fixed-rate, taxable bond market of SEC-registered securities. The index includes bonds from the Treasury, Government-Related, Corporate, MBS (agency fixed-rate and hybrid ARM pass-through securities), ABS, and CMBS sectors.

**Bloomberg Commodity Index:** A liquid and diversified benchmark for commodities as an asset class. The index is composed of futures contracts on 19 physical commodities which include oil, metals and agricultural products such as corn or soybean. The Bloomberg Commodity Index family includes nine sub-indexes that group commodities based on type, plus single-commodity indexes for each of the 19 individual commodities in the broad index, plus Cocoa, Lead, Platinum and Tin.

**Dow Jones U.S. Select REIT Index:** Comprised of companies whose charters are the equity ownership and operation of commercial real estate and which operate under the REIT Act of 1960. Each REIT in the REIT Index is weighted by its float-adjusted market capitalization. The total return version of the index is calculated with gross dividends reinvested.

2021 YCharts, Inc. All Rights Reserved. YCharts, Inc. ("YCharts") is not registered with the U.S. Securities and Exchange Commission (or with the securities regulatory authority or body of any state or any other jurisdiction) as an investment adviser, broker-dealer or in any other capacity, and does not purport to provide investment advice or make investment recommendations. This report has been generated using data manually input by the creator of this report combined with data and calculations from YCharts.com and is intended solely to assist you or your investment or other adviser(s) in conducting investment research. You should not construe this report as an offer to buy or sell, as a solicitation of an offer to buy or sell, or as a recommendation to buy, sell, hold or trade, any security or other financial instrument. THE IMPORTANT DISCLOSURES FOUND AT THE END OF THIS REPORT (WHICH INCLUDE DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT) ARE AN INTEGRAL PART OF THIS REPORT AND MUST BE READ IN CONJUNCTION WITH YOUR REVIEW OF THIS REPORT. For further information regarding your use of this report, please go to: <https://get.ycharts.com/disclosure/>

## Disclosure

MSCI EAFE® Index-Net Total Return: Measures the equity market performance of developed markets, excluding the US & Canada. The index returns are calculated with reinvestment of net dividends after the deduction of applicable non-resident withholding taxes. Prior to July 1, 2016, the returns of the MSCI EAFE index were calculated with gross dividends, before application of local taxes, to approximate the maximum possible dividend reinvestment.

MSCI Emerging Markets® Index-Net Total Return: Measures the equity market performance of emerging markets. The index returns are calculated with reinvestment of net dividends, after the deduction of applicable nonresident withholding taxes. Prior to July 1, 2016, the returns of the MSCI Emerging Markets index were calculated with gross dividends, before application of local taxes, to approximate the maximum possible dividend reinvestment.

S&P 500® Index: Capitalization-weighted index of 500 stocks. The index is designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries. The total return version of the index is used, which reflects the effects of dividend reinvestment.

S&P MidCap 400® Index: Covers 7% of the U.S. equity market and is comprised of companies with market capitalization in the range of US \$1.4 billion to US \$5.9 billion. The total return version of the index is used, which reflects the effects of dividend reinvestment.

S&P SmallCap 600® Index: Covers approximately 3% of the domestic equities market covering companies with market capitalization in the range of US \$400 million to US \$1.8 billion. The total return version of the index is used, which reflects the effects of dividend reinvestment.

### DEFINITIONS

The following terms, if used in this Report, have the following meanings:

1. Alpha: Alpha measures the risk and market-adjusted returns for the portfolio. The metric is calculated on the specified lookback period using the benchmark that is set for the portfolio.

Formula Alpha = Annualized security return - risk free rate - beta \* (annualized benchmark return - risk free rate) \* 100

Note: Risk free rate = average 1 month treasury rate throughout the lookback period.

2. Beta: Beta measures the movement of the portfolio in comparison to the benchmark based on the lookback period. It is a statistical measure that can be used to measure the volatility of price movements.

Formula Beta = Covariance ( Portfolio Return , Benchmark Return) / Variance (Benchmark Return)

3. Standard Deviation: Standard deviation measures the range of return values that you can statistically expect from your portfolio compared to its mean return. This measure is annualized for the specified lookback period.

Formula Standard Deviation = SQRT(Variance of Monthly Returns for Lookback Period)

4. Historical Sharpe: Sharpe measures the risk-adjusted return for the specified lookback period.

Formula Sharpe = (Average monthly return over lookback period) / (Historical standard deviation)

5. Historical Sortino: Sortino Ratio measures the downside risk-adjusted outperformance of the portfolio versus the benchmark.

Formula Historical Sortino = (Average Monthly Returns - risk free rate) / downside deviation

6. 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).

Formula: Max Drawdown = (Peak value before largest drop - Lowest value before new high established) / (Peak value before largest drop)

7. Monthly Value at Risk (VaR) 5%: The VaR calculates the potential loss of an investment with a given time frame and confidence level. This metric is a statistical measure that gives an idea of the statistical chance of a drawdown occurring.

2021 YCharts, Inc. All Rights Reserved. YCharts, Inc. ("YCharts") is not registered with the U.S. Securities and Exchange Commission (or with the securities regulatory authority or body of any state or any other jurisdiction) as an investment adviser, broker-dealer or in any other capacity, and does not purport to provide investment advice or make investment recommendations. This report has been generated using data manually input by the creator of this report combined with data and calculations from YCharts.com and is intended solely to assist you or your investment or other adviser(s) in conducting investment research. You should not construe this report as an offer to buy or sell, as a solicitation of an offer to buy or sell, or as a recommendation to buy, sell, hold or trade, any security or other financial instrument. THE IMPORTANT DISCLOSURES FOUND AT THE END OF THIS REPORT (WHICH INCLUDE DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT) ARE AN INTEGRAL PART OF THIS REPORT AND MUST BE READ IN CONJUNCTION WITH YOUR REVIEW OF THIS REPORT. For further information regarding your use of this report, please go to: <https://get.ycharts.com/disclosure/>



## Disclosure

---

8. Dividend Yield (TTM) - For the underlying holdings of the portfolio, the dividend yield measures the total amount of dividends per share paid over the last 12 months, divided by the price per share of the security. To calculate the portfolio's dividend yield, a weighted average of the underlying holdings' dividend yield is taken.
9. 7-Day SEC Yield - Annualized yield calculated using interest and dividends earned and paid out over a 7-day period. It is primarily used for money market funds. The unsubsidized version of this yield reflects what the value would be without any fee waivers or expense reimbursements.
10. 30-Day SEC Yield - Annualized yield calculated using net investment income per share earned over a 30-day period. The unsubsidized version of this yield reflects what the value would be without any fee waivers or expense reimbursements.
11. Distribution Yield (TTM) - Measures the total amount of distributions received from common dividends paid in the underlying holdings over the last 12 months.
12. Weighted Average PE Ratio - A weighted average of each underlying holding's share price relative to the net income per share. Stocks that have EPS < 0 are excluded in this calculation.
13. Weighted Average Price to Sales 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.
14. Weighted Average Price to Book Ratio - A weighted average of each underlying holding's share price relative to the book value per share. Stocks that have Book Value per Share < 0 are excluded in this calculation.
15. Weighted Median ROE - Return on equity is measured as the Net Income / Average TTM shareholder's equity. On the portfolio level, the weighted median ROE of the underlying holdings is calculated.
16. Expense Ratio - A measure of the fees charged by a fund manager to the investors that own shares of the fund. The value is a percentage and represents the portion of the investor's assets that are paid to the fund manager on a periodic basis.
17. Weighted Median ROA - Return on assets is measured as the Net Income / Average Total assets of the last 5 quarters. On the portfolio level, the weighted median ROA of the underlying holdings is calculated.
18. Avg. Market Cap - Market capitalization is the share price multiplied by the total number of shares outstanding. For the portfolio, an average of the underlying holdings' market cap is taken.
19. Weighted Avg. Debt to Capital - The debt to capital for underlying stocks is calculated as the total long-term debt divided by the capital of the firm. Capital is measured as the sum of common equity, preferred equity, and long term debt. For the portfolio, the weighted average is taken of the underlying holdings' debt to capital.
20. Portfolio Rebalance - Each portfolio listed on this report contains a rebalance frequency. This can be selected when creating portfolio on YCharts. The portfolios are rebalanced to the proper target weights at each target rebalance point. For monthly rebalancing, the portfolio will rebalance to the target weight at the end of each calendar month. For quarterly rebalancing, the portfolio will rebalance to the target weight at the end of each calendar quarter (March 31st, June 30th, September 30th, December 31st). For annual rebalancing, the portfolio will rebalance to the target weight at the end of each calendar year. Lastly, if the portfolio never rebalances, the target weights are implemented at the portfolio inception date, but will not change after that.

2021 YCharts, Inc. All Rights Reserved. YCharts, Inc. (YCharts) is not registered with the U.S. Securities and Exchange Commission (or with the securities regulatory authority or body of any state or any other jurisdiction) as an investment adviser, broker-dealer or in any other capacity, and does not purport to provide investment advice or make investment recommendations. This report has been generated using data manually input by the creator of this report combined with data and calculations from YCharts.com and is intended solely to assist you or your investment or other adviser(s) in conducting investment research. You should not construe this report as an offer to buy or sell, as a solicitation of an offer to buy or sell, or as a recommendation to buy, sell, hold or trade, any security or other financial instrument. THE IMPORTANT DISCLOSURES FOUND AT THE END OF THIS REPORT (WHICH INCLUDE DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT) ARE AN INTEGRAL PART OF THIS REPORT AND MUST BE READ IN CONJUNCTION WITH YOUR REVIEW OF THIS REPORT. For further information regarding your use of this report, please go to: <https://get.ycharts.com/disclosure/>