

SPDR® Sector Scorecard

Sector investing is a powerful portfolio construction tool to enhance your core equity exposure. Our scorecard provides transparent and quantitative measurements of each sector's **valuation, momentum, sentiment, volatility** and **current positioning**.

The metrics shown are z-scores, which are calculated using the mean and standard deviation of the relevant metrics within S&P 500 sectors.

Monthly Insights

The Technology sector continues to exhibit strong momentum and positive earnings sentiment. The Financials sector has shown both attractive valuations and strong momentum. Despite attractive valuations, poor momentum and weak earnings sentiment continue to weigh on the Energy sector.

	Valuation Composite Score	Momentum Composite Score	Earnings Sentiment Composite Score
Consumer Discretionary	-0.82	-0.35	-0.04
Consumer Staples	-0.30	-0.33	0.79
Energy	1.00	-1.76	-1.55
Financials	0.75	0.76	-0.02
Health Care	0.41	0.24	1.25
Industrials	-0.01	0.42	-0.44
Information Technology	-1.17	1.71	1.37
Materials	0.47	0.12	-1.01
Communication Services	-0.08	0.48	-0.42
Real Estate	0.49	-0.79	-0.23
Utilities	-0.75	-0.49	0.31

Source: FactSet, SPDR America Research, as of December 31, 2019. Green shading is top 3, orange shading is bottom 3. Orange and green shading is meant to be read vertically.

Absolute Valuation Composite Score

Energy and Health Care continues to appear attractive relative to its own history based on various metrics. Technology appears expensive based on all metrics as investors keep chasing for growth.

	P/E	NTM P/E	P/B	P/S	Absolute Valuation Composite Score
Consumer Discretionary	-0.75	-0.88	-0.45	-0.68	-0.69
Consumer Staples	-0.85	-0.33	-0.68	-0.77	-0.65
Energy	0.10	1.56	2.32	2.60	1.64
Financial	0.91	0.83	0.06	-0.16	0.41
Health Care	-0.52	2.11	-0.68	1.00	0.48
Industrials	-0.62	0.12	-0.61	-0.40	-0.38
Technology	-0.82	-0.94	-0.68	-0.77	-0.80
Materials	0.26	-0.43	1.73	0.31	0.47
Communication Services	0.21	-0.49	0.13	-0.77	-0.23
Real Estate	2.66	-0.66	-0.64	0.40	0.44
Utilities	-0.59	-0.88	-0.50	-0.77	-0.68

Source: FactSet, SPDR America Research, as of December 31, 2019. Green shading is top 3, orange shading is bottom 3. Orange and green shading is meant to be read vertically. Sector z-score for each metric is calculated across sectors.

Relative Valuation Composite Score

Despite being the second best performing sector for the year, Financials continue to look attractive relative to the S&P 500. Technology and Consumer Discretionary look expensive based on various metrics.

	P/E	NTM P/E	P/B	P/S	Relative Valuation Composite Score
Consumer Discretionary	-1.26	-1.35	-0.47	-0.75	-0.96
Consumer Staples	-0.37	0.69	-0.66	0.60	0.06
Energy	-0.02	-0.75	1.37	0.86	0.36
Financial	1.36	1.29	1.18	0.55	1.09
Health Care	-0.29	0.85	0.01	0.82	0.35
Industrials	0.39	1.41	-1.15	0.81	0.36
Technology	-1.69	-1.05	-1.85	-1.57	-1.54
Materials	0.85	-0.91	1.24	0.69	0.47
Communication Services	0.58	0.77	-0.27	-0.78	0.07
Real Estate	1.49	0.15	-0.21	0.69	0.53
Utilities	-1.04	-1.11	0.82	-1.92	-0.81

Source: FactSet, SPDR America Research, as of December 31, 2019. Green shading is top 3, orange shading is bottom 3. Orange and green shading is meant to be read vertically. Sector z-score for each metric is calculated across sectors.

Momentum Composite Score

Momentum in Financials and Tech improved significantly in December. However, defensive sectors' momentum deteriorated due to the risk-on rally in Q4.

	3M	6M	12M	Momentum Composite Score
Consumer Discretionary	-0.75	-0.41	0.11	-0.35
Consumer Staples	-0.77	-0.07	-0.16	-0.33
Energy	-0.74	-2.11	-2.43	-1.76
Financial	1.53	0.75	0.01	0.76
Health Care	1.01	0.43	-0.73	0.24
Industrials	0.67	0.40	0.19	0.42
Technology	1.25	1.95	1.93	1.71
Materials	0.13	0.41	-0.16	0.12
Communication Services	0.38	0.27	0.79	0.48
Real Estate	-1.63	-1.02	0.28	-0.79
Utilities	-1.07	-0.60	0.20	-0.49

Source: Bloomberg Finance L.P., SPDR America Research, as of December 31, 2019. Green shading is top 3, orange shading is bottom 3. Orange and green shading is meant to be read vertically. Sector z-score for each metric is calculated across sectors.

Sentiment Composite Score

Sentiment trends in 2019 persist as Health Care remains upbeat while Energy earnings disappoint. Tech's strong earnings sentiment might justify its rich valuations to a certain extent.

	2020 EPS Est. 3 Month Change	2020 EPS Est. Upgrade to Downgrade Ratio	Q3 Earnings Season Magnitude of Earnings Surprise	Q3 Earnings Season % of Companies with Earnings Beats	Sentiment Composite Score
Consumer Discretionary	-0.60	-0.06	0.53	-0.06	-0.04
Consumer Staples	0.74	0.23	0.94	1.24	0.79
Energy	-2.37	-1.32	-1.07	-1.43	-1.55
Financial	0.38	0.17	-1.03	0.40	-0.02
Health Care	0.89	1.27	1.37	1.46	1.25
Industrials	-0.92	-0.86	-0.41	0.43	-0.44
Technology	0.95	2.22	1.45	0.86	1.37
Materials	-0.74	-1.18	-0.34	-1.78	-1.01
Communication Services	0.11	-0.69	-1.32	0.20	-0.42
Real Estate	0.78	0.17	-0.95	-0.92	-0.23
Utilities	0.78	0.03	0.83	-0.40	0.31

Source: FactSet, SPDR America Research, as of December 31, 2019. Green shading is top 3, orange shading is bottom 3. Orange and green shading is meant to be read vertically. Sector z-score for each metric is calculated across sectors.

Volatility Composite Score

Volatility in Consumer Discretionary is elevated amidst lofty valuations and lackluster momentum. Investors might be expecting heightened volatility in Energy given the vast differences in realized and implied volatility.

	30-Day Realized Volatility Relative to the S&P 500 (Percentile)	3M Implied Volatility Relative to the S&P 500 (Percentile)	Realized Volatility z-Score	Implied Volatility z-Score	Volatility Composite Score
Consumer Discretionary	80%	95%	1.81	1.34	1.57
Consumer Staples	39%	22%	-0.03	-1.55	-0.79
Energy	5%	87%	-1.54	1.04	-0.25
Financials	12%	79%	-1.21	0.70	-0.25
Health Care	77%	47%	1.66	-0.56	0.55
Industrials	40%	67%	0.02	0.25	0.14
Information Technology	26%	54%	-0.60	-0.29	-0.44
Materials	27%	49%	-0.56	-0.48	-0.52
Communication Services	54%	16%	0.63	-1.81	-0.59
Real Estate	34%	88%	-0.26	1.09	0.41
Utilities	41%	68%	0.08	0.27	0.17

Source: Bloomberg Finance L.P., FactSet, SPDR America Research, as of December 31, 2019. Green shading is least volatile, orange shading is most volatile. Orange and green shading is meant to be read vertically. Sector z-score for each metric is calculated across sectors.

Sector Positioning

Health Care positioning looks especially bearish as put/call open interest and short interest are near a one year peak.

	Put/Call Open Interest Ratio		Short Interest as % Shares Outstanding		
Sectors	Current Level	1 Yr Percentile Ranking (%)	Current Level (%)	Prior Month (%)	1 Yr Percentile Ranking (%)
Consumer Discretionary	0.95	2%	17.1%	13.4%	71%
Consumer Staples	1.42	35%	7.7%	6.8%	46%
Energy	1.31	87%	8.7%	11.2%	42%
Financials	2.93	76%	9.4%	3.1%	79%
Health Care	2.70	99%	19.1%	14.2%	96%
Industrials	1.80	59%	9.9%	12.1%	13%
Information Technology	2.14	97%	6.9%	5.9%	54%
Materials	1.11	35%	13.9%	16.8%	58%
Communication Services	1.71	45%	2.3%	2.5%	29%
Real Estate	0.65	13%	3.9%	4.0%	38%
Utilities	2.07	80%	13.5%	17.0%	8%

Source: Bloomberg Finance L.P., as of December 31, 2019. Select Sector SPDR Funds' Put-call open interest is used to represent the sector. Short interest of all US-listed sector ETFs are used to calculate short interest as % of shares outstanding. Current levels of short interest as % of shares outstanding are in green if short interest decreases from last quarter in orange if short interest increases from last quarter. Sectors with lowest percentile ranking based on put/call ratio and % of short interest are shaded in green and highest ranking in orange.

Scorecard Methodology

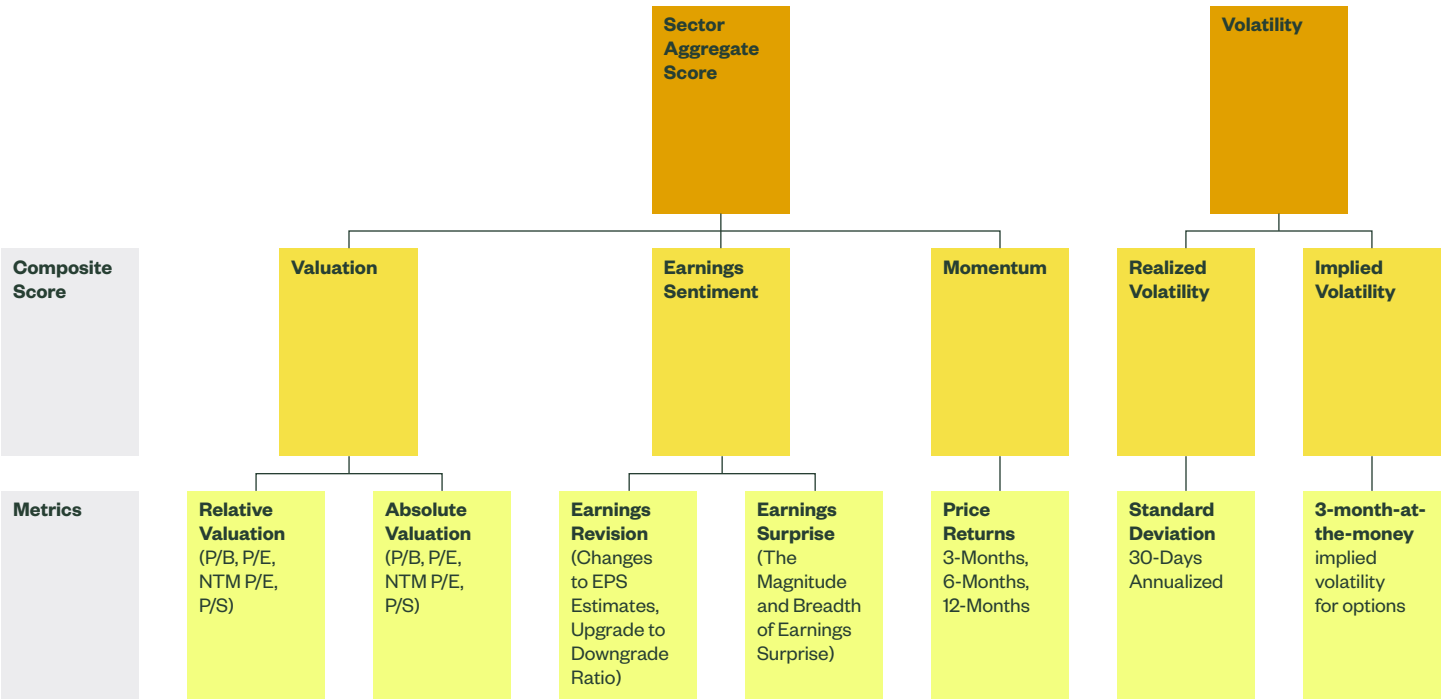
Z-scores are calculated using the mean and standard deviation of the relevant metrics within S&P 500 sectors. Using z-scores to standardize results across all sectors allows for easier relative assessment. Sectors with cheaper valuation, higher price momentum, higher sentiment and higher volatility will have higher z-scores.

We calculate a composite score by equally weighting each metric z-score in the same category.

The scorecard does not represent the investment views of State Street. Metrics used in the scorecard have not been backtested for any sector strategies by State Street. These are for illustrative and educational purposes as we seek to bring greater transparency to the sector investing landscape and the due diligence required to build sophisticated portfolios to meet specific client objectives.

Our rationale for these parameters guides our examinations:

- Value** Stocks that trade at a lower price relative to their fundamentals may outperform high valuation sectors
- Momentum** Stocks that have performed well may tend to continue doing well in the near term
- Earnings sentiment** Stocks with strong earnings sentiment may indicate improving earnings growth prospects in the near term
- Volatility** Realized volatility provides an insight on sector historical volatility level, while implied volatility indicates forward-looking risk levels



Source: SPDR America Research.

To calculate the **Absolute Valuation Composite Score**, we examined the percentile ranking of sector trailing price-to-earnings (P/E), next twelve month price-to-earnings (NTM P/E), price-to-book (P/B) and price-to-sales (P/S) over the past 15 years. A higher score indicates more attractive valuations at present relative to the sector's historical norm.

To calculate the **Relative Valuation Composite Score**, we examined the percentile ranking of sector valuations relative to the S&P 500 over the past 15 years based on trailing P/E, NTM P/E, P/B and P/S. A higher score indicates more attractive relative valuations compared to the sector's historical norm.

The **Momentum Composite Score** is calculated by combining recent, not including the most recent month, 3-months, 6-months and 12-months price performance of the sector. A higher score indicates higher price momentum.

To calculate the **Sentiment Composite Score**, we examined changes to the NTM EPS estimates over the prior three months, the EPS upgrade to downgrade ratio, and the magnitude and breadth of earnings beats in the current earnings season. A higher score indicates higher earnings sentiment in the sector.

To calculate the **Volatility Composite Score** we examined the percentile ranking of each sector's 30-day realized volatility and 3-month implied volatility relative to the S&P 500 over the last twelve months. A z-score was calculated based off that percentile. A higher score indicates higher than normal levels of realized or implied volatility.

US Sector ETFs' put and call total open interest is used to calculate **Put/Call Open Interest Ratio**. Short interest of all US-listed sector ETFs are used to calculate **Short Interest as a Percentage of Shares Outstanding**.

ssga.com

spdrs.com

State Street Global Advisors One Iron Street,
Boston MA 02210. T: +1 866 787 2257.

Glossary

Implied Volatility (IV) is measured by the 3-month at-the-money implied volatility for options tied to the corresponding Select Sector SPDR ETFs. It represents the market's forward-looking expectation of volatility based on current options pricing.

NTM Price to Earnings Ratio (NTM P/E) The ratio of the price of a stock and the firms earnings per share over the next twelve months. A lower NTM P/E indicates cheaper valuation.

Price to Book Ratio (P/B) A financial ratio used to compare a company's current market price to its book value which is the carrying value of an asset according to its balance sheet account balance. A lower P/B indicates cheaper valuation.

Price to Earnings Ratio (P/E) The ratio of the price of a stock and the firms earnings per share. A lower P/E indicates cheaper valuation.

Price to Sales Ratio (P/S) The ratio of the price of a stock and the firms sales per share. A lower P/S indicates cheaper valuation.

Z-score measures how many standard deviations an element is above or below the population mean. A sector z-score can be calculated from the following formula. $z = (X - \mu) / \sigma$, where X is the sector value of the metrics. μ is the mean of 11 sector values for a certain metric. σ is the standard deviation of the value of eleven sectors.

Important Risk Information

State Street Global Advisors and its affiliates ("SSGA") have not taken into consideration the circumstances of any particular investor in producing this material and are not making an investment recommendation or acting in fiduciary capacity in connection with the provision of the information contained herein.

The information provided does not constitute investment advice and it should not be relied on as such. It should not be considered a solicitation to buy or an offer to sell a security. It does not take into account any investor's particular investment objectives, strategies, tax status or investment horizon. You should consult your tax and financial advisor.

The views expressed in this material are the views of SPDR Research Team through the period ended December 31, 2019 and are subject to change based on market and other conditions and do not necessarily represent the views of State Street Global Advisors or any of its affiliates. This document contains certain

statements that may be deemed forward-looking statements. Please note that any such statements are not guarantees of any future performance and actual results or developments may differ materially from those projected. The information provided does not constitute investment advice and it should not be relied on as such.

Investing involves risk including the risk of loss of principal.

Because of their narrow focus, sector funds tend to be more volatile than funds that diversify across many sectors and companies. Select Sector SPDR Funds bear higher level of risk than more broadly diversified funds. All ETFs are subject to risk, including the possible loss of principal. Sector ETFs products are also subject to sector risk and non-diversification risk, which generally results in greater price fluctuations than the overall market.

All ETFs are subject to risk, including possible loss of principal. Sector ETF products are also subject to sector risk and non-diversification risk, which generally result in greater price fluctuations than the overall market.

The trademarks and service marks referenced herein are the property of their respective owners. Third party data providers make no warranties or representations of any kind relating to the accuracy, completeness or timeliness of the data and have no liability for damages of any kind relating to the use of such data.

Standard & Poor's®, S&P® and SPDR® are registered trademarks of Standard & Poor's Financial Services LLC, a division of S&P Global (S&P); Dow Jones is a registered trademark of Dow Jones Trademark Holdings LLC (Dow Jones); and these trademarks have been licensed for use by S&P Dow Jones Indices LLC (SPDJI) and sublicensed for certain purposes by State Street Corporation. State Street Corporation's financial products are not sponsored, endorsed, sold or promoted by SPDJI, Dow Jones, S&P, their respective affiliates and third party licensors and none of such parties make any representation regarding the advisability of investing in such product(s) nor do they have an liability in relation thereto, including for any errors, omissions, or interruptions of any index.

State Street Global Advisors Funds Distributors, LLC member FINRA SIPC.

© 2020 State Street Corporation.
All Rights Reserved.
ID128324-2111637.23.1AM.RTL 0120
Exp. Date: 01/31/2021