

SPDR® Sector Scorecard

Sector investing is a powerful portfolio construction tool that can 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

Communication Services shows attractive valuations, strong short-term momentum, and positive earnings sentiment. Meanwhile, Real Estate might be cheap for a reason, as the sector exhibits both poor momentum and earnings sentiment.

Sector	Valuation Composite Score	Momentum Composite Score	Earnings Sentiment Composite Score
Communication Services	0.73	0.44	0.56
Consumer Discretionary	-0.69	-0.39	0.90
Consumer Staples	-0.35	0.13	0.40
Energy	1.21	0.44	-0.46
Financials	-0.35	-0.87	-0.81
Health Care	0.07	-0.39	0.05
Industrials	-0.39	0.65	0.60
Information Technology	-1.41	1.33	0.03
Materials	0.90	0.28	0.35
Real Estate	0.89	-0.94	-1.07
Utilities	-0.10	-0.66	-0.56

Source: FactSet, SPDR Americas Research, as of April 30, 2023. Green shading represents top 3, orange shading represents bottom 3. Orange and green shading are meant to be read vertically.

Absolute Valuation Composite Score

Tech and Consumer Staples continue to appear expensive relative to their own trading histories. Meanwhile, Energy, Real Estate, and Communication Services appear attractively valued based on most metrics.

Sector	P/E	NTM P/E	P/B	P/S	Absolute Valuation Composite Score
Communication Services	0.12	1.26	1.55	0.69	0.90
Consumer Discretionary	-0.81	-0.67	0.22	-0.58	-0.46
Consumer Staples	-0.83	-0.91	-0.82	-0.12	-0.67
Energy	2.17	1.95	-0.73	2.23	1.40
Financials	-0.50	0.10	-1.21	-1.05	-0.66
Health Care	0.22	-1.19	-0.58	1.30	-0.06
Industrials	-0.56	-0.55	-0.61	-0.74	-0.61
Information Technology	-0.83	-0.92	-0.55	-0.79	-0.77
Materials	1.95	-0.07	1.12	0.11	0.78
Real Estate	1.79	1.30	1.89	-1.11	0.97
Utilities	-0.56	-0.30	-0.28	0.05	-0.27

Source: FactSet, SPDR Americas Research, as of April 30, 2023. Green shading represents top 3, orange shading represents bottom 3. Orange and green shading are meant to be read vertically. Sector z-score for each metric is calculated across sectors.

Relative Valuation Composite Score

Despite its expensive historical valuations, Financials appears more fairly valued relative to the S&P 500. Conversely, Tech and Consumer Discretionary look expensive based on most metrics, similar to their absolute valuations.

Sector	P/E	NTM P/E	P/B	P/S	Relative Valuation Composite Score
Communication Services	-0.10	1.28	0.49	0.59	0.56
Consumer Discretionary	-1.28	-1.44	0.46	-1.38	-0.91
Consumer Staples	-0.66	-0.15	-0.22	0.92	-0.03
Energy	1.90	0.98	0.09	1.06	1.01
Financials	0.09	0.49	-0.56	-0.21	-0.05
Health Care	0.32	-0.72	0.32	0.90	0.21
Industrials	-0.11	0.20	-0.71	-0.03	-0.16
Information Technology	-1.43	-2.07	-2.63	-2.09	-2.06
Materials	1.84	0.39	0.74	1.09	1.02
Real Estate	1.52	1.04	1.18	-0.51	0.81
Utilities	-0.19	0.00	0.84	-0.34	0.08

Source: FactSet, SPDR Americas Research, as of April 30, 2023. Green shading represents top 3, orange shading represents bottom 3. Orange and green shading are meant to be read vertically. Sector z-score for each metric is calculated across sectors.

Momentum Composite Score

Communication Services and Tech momentum have picked up over the short term, but defensive sectors such as Utilities and Health Care continue to lag.

Sector	3 Months	6 Months	12 Months	Momentum Composite Score
Communication Services	1.64	0.73	-1.04	0.44
Consumer Discretionary	1.19	-1.12	-1.25	-0.39
Consumer Staples	-0.40	-0.04	0.84	0.13
Energy	-0.98	0.30	1.99	0.44
Financials	-1.03	-0.81	-0.77	-0.87
Health Care	-0.90	-0.69	0.41	-0.39
Industrials	-0.11	1.24	0.82	0.65
Information Technology	1.77	1.83	0.38	1.33
Materials	-0.04	0.79	0.09	0.28
Real Estate	-0.30	-1.07	-1.45	-0.94
Utilities	-0.83	-1.15	0.00	-0.66

Source: Bloomberg Finance L.P., SPDR Americas Research, as of April 30, 2023. Green shading represents top 3, orange shading represents bottom 3. Orange and green shading are meant to be read vertically. Sector z-score for each metric is calculated across sectors.

Sentiment Composite Score

With roughly half of S&P 500 companies reporting Q1 earnings, Consumer Discretionary has shown strong results, particularly with respect to positive surprises. Real Estate, however, lags across all metrics.

Sector	3-Month Change to 2023 EPS Est.	2023 EPS Est. Upgrade-to-Downgrade Ratio	Current Earnings Season Magnitude of Earnings Surprise	Current Earnings Season % of Companies with Earnings Beats	Sentiment Composite Score
Communication Services	2.30	-0.33	-0.43	0.71	0.56
Consumer Discretionary	0.01	0.83	2.24	0.51	0.90
Consumer Staples	0.49	0.52	-0.36	0.95	0.40
Energy	-2.15	-1.26	0.21	1.38	-0.46
Financials	-0.35	-0.70	-0.45	-1.73	-0.81
Health Care	-0.30	1.52	-0.85	-0.18	0.05
Industrials	0.48	1.64	0.23	0.06	0.60
Information Technology	0.12	0.50	-0.72	0.23	0.03
Materials	-0.08	-0.96	1.69	0.76	0.35
Real Estate	-0.59	-1.14	-0.90	-1.64	-1.07
Utilities	0.07	-0.62	-0.67	-1.04	-0.56

Source: FactSet, SPDR Americas Research, as of April 30, 2023. Green shading represents top 3, orange shading represents bottom 3. Orange and green shading are meant to be read vertically. Sector z-score for each metric is calculated across sectors.

Volatility Composite Score

Volatility is quite elevated as six sectors register in the top decile based on realized volatility and eight sectors register in the top decile based on implied volatility. Consumer Staples, however, is the only sector with below median volatility for both metrics.

Sector	30-Day Realized Volatility Relative to the S&P 500 (Percentile)	3-Month Implied Volatility Relative to the S&P 500 (Percentile)	Realized Volatility Z-Score	Implied Volatility Z-Score	Volatility Composite Score
Communication Services	91	94	0.30	0.39	0.34
Consumer Discretionary	90	94	0.28	0.39	0.33
Consumer Staples	49	28	-1.66	-2.89	-2.27
Energy	89	71	0.23	-0.75	-0.26
Financials	89	90	0.21	0.19	0.20
Health Care	100	97	0.72	0.55	0.63
Industrials	99	100	0.70	0.70	0.70
Information Technology	33	99	-2.43	0.66	-0.88
Materials	89	94	0.21	0.39	0.30
Real Estate	100	97	0.72	0.57	0.64
Utilities	100	82	0.72	-0.17	0.27

Source: Bloomberg Finance L.P., SPDR Americas Research, as of April 30, 2023. Green shading represents least volatile, orange shading represents most volatile. Orange and green shading are meant to be read vertically. Sector z-score for each metric is calculated across sectors.

Sector Positioning

Investors appear bullish on Energy as short interest hit a one-year low and put/call volume ratio is below its median. Meanwhile, investors' positioning in Tech appears bearish as short interest hit a one-year high and put/call volume ratio is in the top quintile.

Sector	Put/Call Volume Ratio		Short Interest as of Shares Outstanding		
	Current Level	1-Yr. Percentile Ranking (%)	Current Level (%)	Prior Month (%)	1-Yr. Percentile Ranking (%)
Communication Services	1.93	62	1.7	2.3	14
Consumer Discretionary	1.96	27	14.7	16.4	14
Consumer Staples	2.62	16	9.3	8.4	45
Energy	1.46	42	4.4	5.0	0
Financials	1.39	7	11.3	12.0	77
Health Care	1.15	5	9.7	9.2	100
Industrials	3.36	40	14.0	10.9	100
Information Technology	1.86	86	2.3	2.3	100
Materials	4.49	62	9.2	9.2	9
Real Estate	3.52	46	2.6	2.4	32
Utilities	2.05	55	9.4	9.7	27

Source: Bloomberg Finance L.P., SPDR Americas Research, as of April 30, 2023. Select Sector SPDR Funds' put/call volume 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 and are 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 are 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.

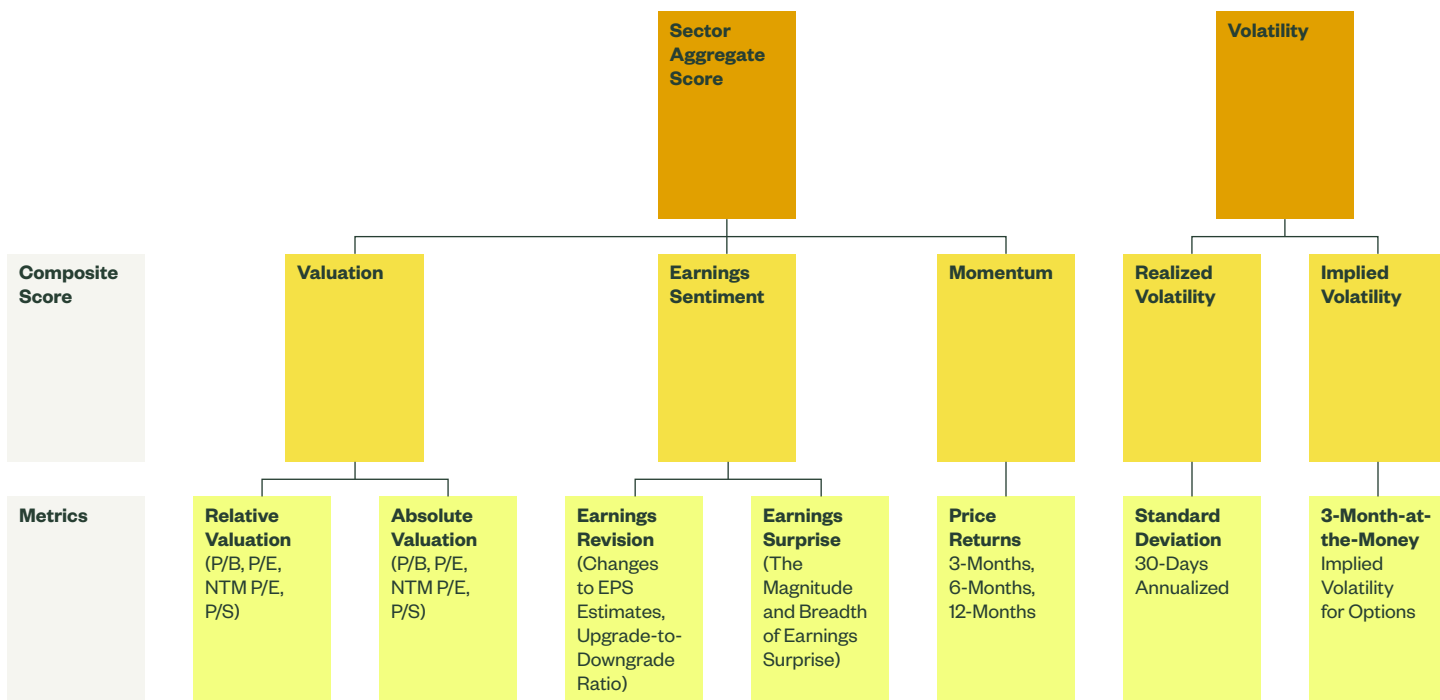
Our rationale for these parameters guides our examinations:

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 the sector historical volatility levels, while implied volatility indicates forward-looking risk levels



Source: SPDR Americas Research.

To calculate the **Absolute Valuation Composite Score**, we examined the percentile ranking of sector trailing price-to-earnings (P/E), next-12-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 with 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 past 12 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 volume is used to calculate **Put/Call Volume Ratio**. Short interest of all US-listed sector ETFs are used to calculate **Short Interest as a Percentage of Shares Outstanding**.

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Information Classification: General Access

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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 12 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, and σ is the standard deviation of the value of 11 sectors.

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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 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.

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