

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 and Utilities sectors exhibit strong momentum and positive earnings sentiment. 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	-0.87	-0.05	0.50
Consumer Staples	-0.33	0.04	0.13
Energy	0.74	-2.17	-1.30
Financials	1.30	0.04	0.26
Health Care	0.73	0.12	0.67
Industrials	0.00	-0.15	-1.22
Information Technology	-1.28	1.98	1.50
Materials	0.24	-0.81	-1.17
Communication Services	0.11	0.38	0.50
Real Estate	0.16	-0.33	-0.44
Utilities	-0.80	0.96	0.56

Source: FactSet, SPDR America Research, as of February 29, 2020. Green shading is top 3, orange shading is bottom 3. Orange and green shading is meant to be read vertically.

Absolute Valuation Composite Score

Tech and Utilities appear expensive on various metrics relative to the sectors' trading history. Valuations of Financials have been compressed as Treasury yields fell to historical lows.

	P/E	NTM P/E	P/B	P/S	Absolute Valuation Composite Score
Consumer Discretionary	-0.85	-0.71	-0.47	-0.61	-0.66
Consumer Staples	-0.83	-0.14	-0.94	-0.67	-0.65
Energy	-0.44	0.21	1.97	2.41	1.04
Financial	1.89	1.92	0.75	0.60	1.29
Health Care	0.36	1.50	-0.35	1.27	0.69
Industrials	-0.29	-0.16	-0.50	-0.37	-0.33
Technology	-1.15	-1.18	-0.91	-0.99	-1.06
Materials	-0.18	-0.48	1.77	-0.41	0.17
Communication Services	0.07	0.97	0.08	-0.40	0.18
Real Estate	1.98	-0.76	-0.94	0.15	0.11
Utilities	-0.57	-1.15	-0.44	-0.97	-0.78

Source: FactSet, SPDR America Research, as of February 29, 2020. 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

Sector valuations relative to the S&P 500 fall in line with absolute valuations as Tech & Utilities appear overvalued and Financials & Health Care appear undervalued.

	P/E	NTM P/E	P/B	P/S	Relative Valuation Composite Score
Consumer Discretionary	-1.62	-1.34	-0.55	-0.83	-1.08
Consumer Staples	-0.27	0.60	-0.94	0.59	-0.01
Energy	-0.75	0.20	1.40	0.91	0.44
Financial	1.62	1.48	1.35	0.78	1.31
Health Care	0.49	1.03	0.67	0.91	0.78
Industrials	0.73	0.73	-0.99	0.82	0.32
Technology	-1.52	-1.20	-1.57	-1.73	-1.50
Materials	0.16	-0.70	1.28	0.52	0.31
Communication Services	0.07	0.96	-0.24	-0.63	0.04
Real Estate	1.38	-0.32	-0.65	0.44	0.21
Utilities	-0.29	-1.44	0.24	-1.78	-0.82

Source: FactSet, SPDR America Research, as of February 29, 2020. 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 Utilities improved significantly last month, but still lagged behind Technology. Poor momentum exists in Energy and Materials across all time periods.

	3M	6M	12M	Momentum Composite Score
Consumer Discretionary	0.10	-0.24	-0.03	-0.05
Consumer Staples	-0.13	0.03	0.21	0.04
Energy	-1.91	-2.35	-2.24	-2.17
Financial	0.11	0.01	0.01	0.04
Health Care	0.30	0.48	-0.41	0.12
Industrials	-0.11	-0.19	-0.17	-0.15
Technology	2.17	1.60	2.16	1.98
Materials	-1.00	-0.88	-0.55	-0.81
Communication Services	0.53	0.30	0.32	0.38
Real Estate	-0.81	-0.09	-0.09	-0.33
Utilities	0.75	1.32	0.80	0.96

Source: Bloomberg Finance L.P., SPDR America Research, as of February 29, 2020. 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

Q4 2019 earnings have been especially positive for Tech which has been a contributing factor in its strong momentum and high valuations. Sentiment in cyclical sectors, such as Energy, Industrials and Materials is weak as the coronavirus threatens to deliver supply and demand shocks in those sectors.

	2020 EPS Est. 3 Month Change	2020 EPS Est. Upgrade to Downgrade Ratio	Q4 Earnings Season Magnitude of Earnings Surprise	Q4 Earnings Season % of Companies with Earnings Beats	Sentiment Composite Score
Consumer Discretionary	-0.13	-0.45	1.69	0.91	0.50
Consumer Staples	0.56	-0.25	-0.46	0.68	0.13
Energy	-1.80	-1.35	-0.34	-1.70	-1.30
Financial	0.74	1.40	-0.86	-0.26	0.26
Health Care	0.87	0.87	0.03	0.91	0.67
Industrials	-1.40	-0.77	-1.60	-1.12	-1.22
Technology	1.36	1.76	1.44	1.45	1.50
Materials	-1.28	-1.37	-0.65	-1.38	-1.17
Communication Services	0.29	0.09	0.90	0.70	0.50
Real Estate	0.02	-0.51	-0.85	-0.40	-0.44
Utilities	0.77	0.58	0.69	0.21	0.56

Source: FactSet, SPDR America Research, as of February 29, 2020. 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

Both implied and realized volatility in Energy is high given the sector's negative momentum and poor sentiment. Supported by strong Q4 earnings results, volatility in Technology and Communication Services dropped last month.

	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	57%	7%	0.34	-0.75	-0.20
Consumer Staples	70%	21%	0.73	0.10	0.41
Energy	98%	23%	1.59	0.24	0.91
Financials	62%	2%	0.49	-1.04	-0.27
Health Care	24%	23%	-0.67	0.19	-0.24
Industrials	28%	1%	-0.54	-1.13	-0.84
Information Technology	1%	21%	-1.36	0.07	-0.64
Materials	98%	16%	1.57	-0.20	0.69
Communication Services	1%	1%	-1.36	-1.11	-1.23
Real Estate	47%	54%	0.03	2.06	1.04
Utilities	19%	45%	-0.83	1.56	0.37

Source: Bloomberg Finance L.P., FactSet, SPDR America Research, as of February 29, 2020. 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 remains bearish as put/call open interest and short interest levels remain in the top quintile over the past year. Despite heightened put/call open interest levels, Tech has low short interest suggesting that investors may be protecting their profits.

Sectors	Put/Call Open Interest Ratio		Short Interest as % Shares Outstanding		
	Current Level	1 Yr Percentile Ranking (%)	Current Level (%)	Prior Month (%)	1 Yr Percentile Ranking (%)
Consumer Discretionary	0.55	4%	17.3%	17.9%	67%
Consumer Staples	1.89	44%	7.0%	7.6%	21%
Energy	1.13	38%	8.1%	7.3%	25%
Financials	2.15	16%	9.6%	9.7%	75%
Health Care	2.78	86%	19.4%	19.4%	96%
Industrials	2.35	84%	8.6%	8.0%	13%
Information Technology	2.33	94%	6.4%	6.9%	21%
Materials	1.11	39%	12.8%	13.1%	29%
Communication Services	1.41	29%	2.0%	1.5%	33%
Real Estate	0.31	9%	3.9%	3.8%	25%
Utilities	1.50	31%	15.1%	15.6%	42%

Source: Bloomberg Finance L.P., as of February 29, 2020. 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 of 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.

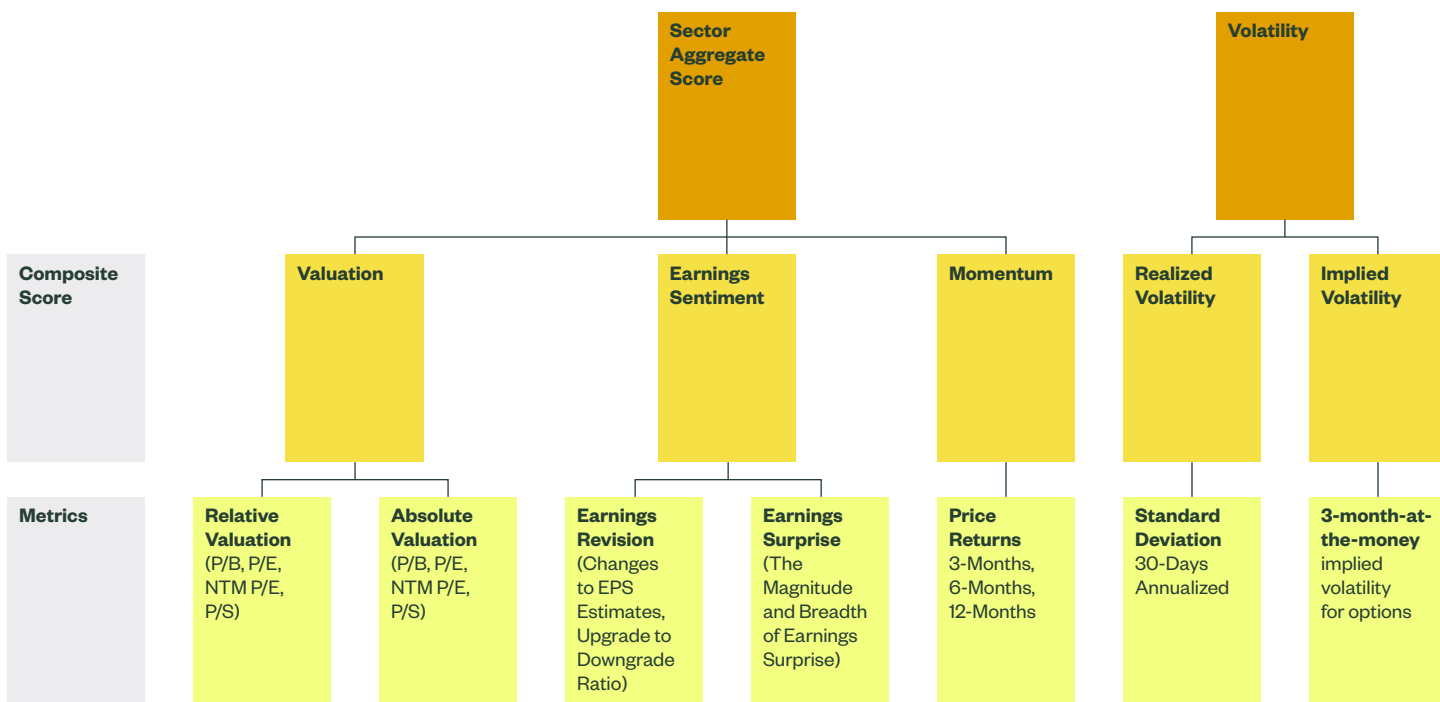
Our rationale for these parameters guides our examinations:

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**.

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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 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

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