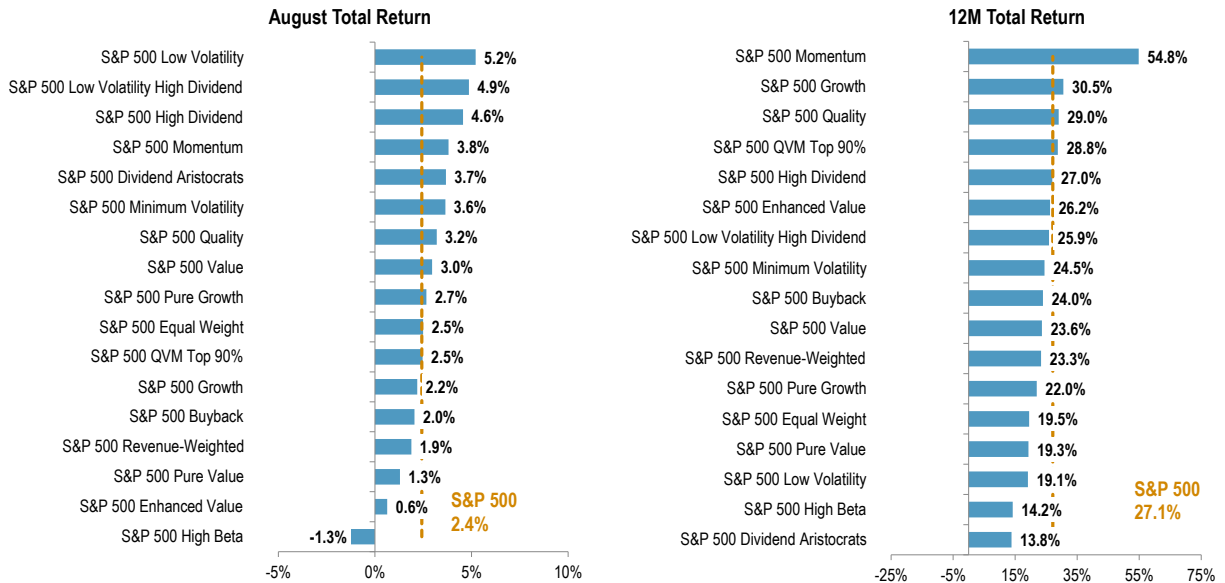


# S&P Dow Jones Indices

A Division of **S&P Global**

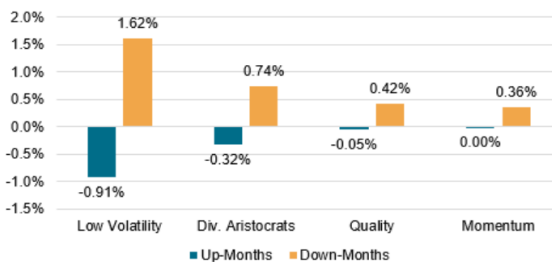
## MONTHLY AND YTD PERFORMANCE SUMMARY



## COMMENTARY

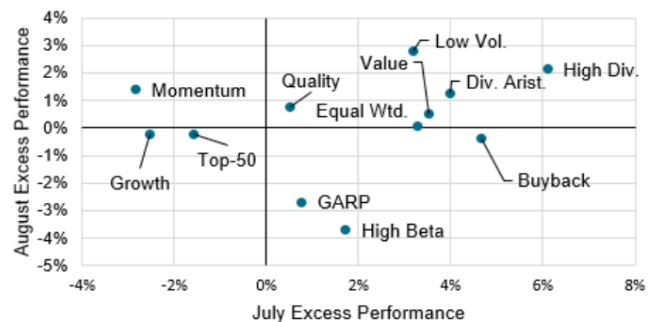
Friday night lights have switched on, buzzing at dusk alongside the cicadas as they illuminate hometown heroes of the high-school gridiron. Chants of “hold ‘em, defense!” echo through the evening air, but may feel appropriate during recent trading days too. Given that our July commentary focused on factor shifts in a rocky market compared to the first half of 2024, it's appropriate to analyze August relative to July in order to see if new trends have continued. Our first chart shows the one-month excess returns of selected factors compared to the S&P 500. Regular readers will recall that when the magnificent 7 was in the throes of its dominance, the upper right quadrant was often empty as few factors have maintained leadership over multiple periods, often lacking exposure to the handful of market leading stocks. However, low volatility, quality, and dividend strategies, among others, have outperformed the market over 2 successive months, even as the S&P 500 has generated positive performance.

Selected Factors Excess Performance in Up/Down Months



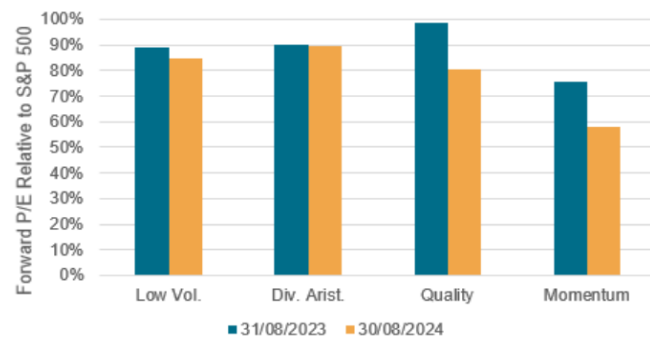
What is the price of defensive protection? Valuations can help tell the story. As the S&P 500 rose 27.1% over the 12 months ending August 2024, its forward P/E ratio climbed from 20.7 to 23.6, showing that earnings may have been robust but multiple expansion was undeniable. While many factors also exhibited higher valuations, multiples did not rise at the same pace as the broader market. Our third chart illustrates changes in relative valuations for the defensive factors, represented as proportions of S&P 500 forward P/E ratios at the end of August in 2023 and 2024, underscoring that Low Volatility, Quality and Momentum currently trade at a greater discount to the S&P 500 than they did 12 months prior.

Selected Factor Index Excess Performance



The oft-unsung defensive line of typically 3-4 players often makes an impact without fanfare. Such is life for the aforementioned handful of defensive factors as well, as they have often trailed flashier segments of the market, waiting for their moment to protect from the downside. And like the D-line, their success is borne not from single spectacular plays, but grinding forward over time. Our second chart shows the outcome in terms of monthly excess performance during up and down months over the last 20 years (since August 2004). While we note that Momentum isn't typically considered a “defensive” factor, its relative resilience in falling markets and recent outperformance is worth illuminating nonetheless.

Forward P/E Relative to S&P 500

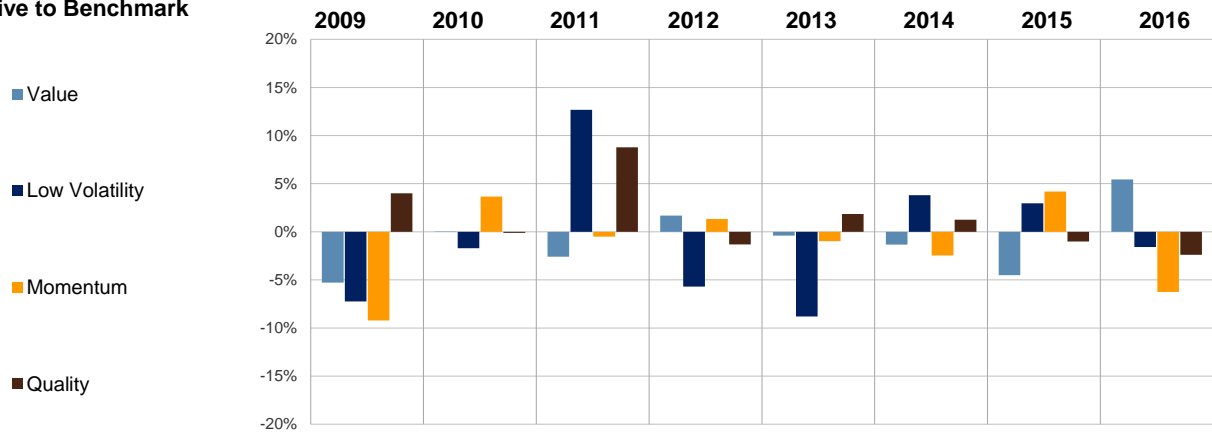


## ANNUAL PERFORMANCE

Core factor performance by calendar year, 2009-present:

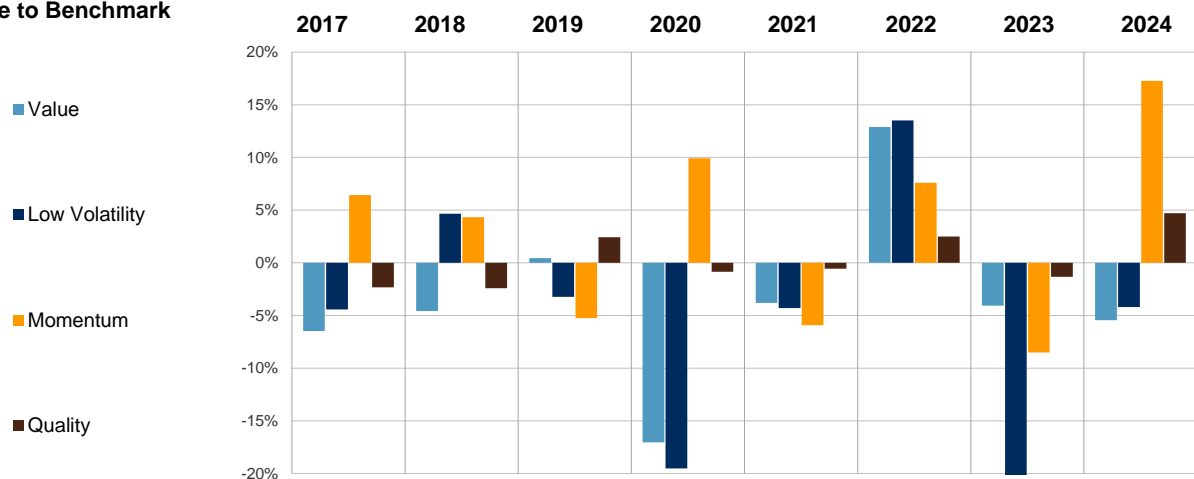
Total Return	2009	2010	2011	2012	2013	2014	2015	2016
Value	21.18%	15.10%	-0.48%	17.68%	31.99%	12.36%	-3.13%	17.40%
Low Volatility	19.22%	13.36%	14.78%	10.30%	23.59%	17.49%	4.34%	10.37%
Momentum	17.24%	18.72%	1.60%	17.33%	31.42%	11.23%	5.56%	5.70%
Quality	30.46%	14.95%	10.89%	14.68%	34.24%	14.95%	0.38%	9.56%
S&P 500	26.46%	15.06%	2.11%	16.00%	32.39%	13.69%	1.38%	11.96%

### Relative to Benchmark



Total Return	2017	2018	2019	2020	2021	2022	2023	2024
Value	15.36%	-8.95%	31.93%	1.36%	24.90%	-5.22%	22.23%	14.09%
Low Volatility	17.41%	0.27%	28.26%	-1.11%	24.42%	-4.59%	0.72%	15.33%
Momentum	28.27%	-0.04%	26.25%	28.32%	22.79%	-10.51%	17.78%	36.80%
Quality	19.51%	-6.79%	33.91%	17.55%	28.16%	-15.62%	24.97%	24.23%
S&P 500	21.83%	-4.38%	31.49%	18.40%	28.71%	-18.11%	26.29%	19.53%

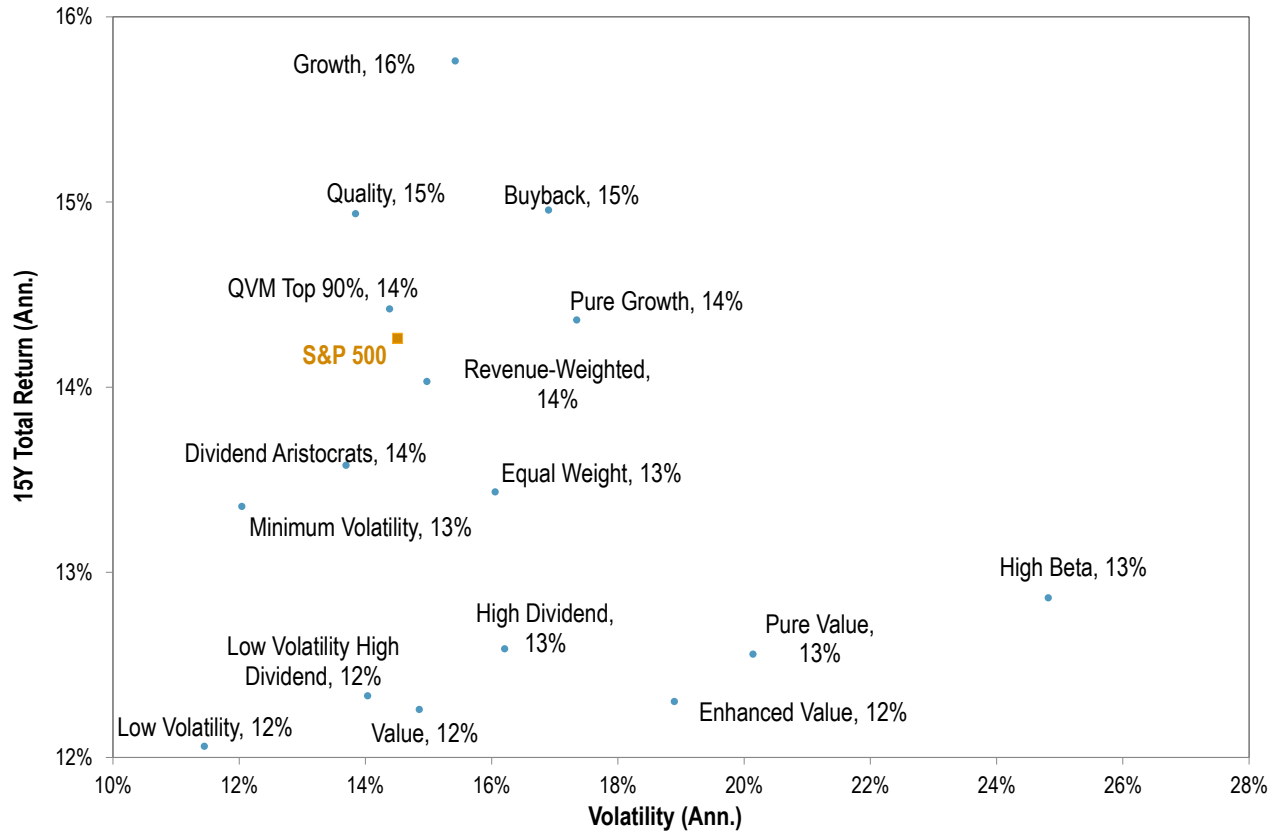
### Relative to Benchmark



# S&P Dow Jones Indices

A Division of S&P Global

## 15 YEAR RISK & RETURN - ABSOLUTE



TOTAL RETURN	1M	3M	12M	3Y	5Y	10Y	15Y
S&P 500 Momentum	3.8%	9.9%	54.8%	13.8%	18.8%	15.5%	16.1%
S&P 500 Growth	2.2%	7.9%	30.5%	6.9%	17.0%	14.7%	15.8%
S&P 500 Buyback	2.0%	8.3%	24.0%	7.3%	14.6%	11.5%	15.0%
S&P 500 Quality	3.2%	8.9%	29.0%	11.3%	17.1%	13.1%	14.9%
S&P 500 QVM Top 90%	2.5%	7.3%	28.8%	9.9%	16.3%	13.2%	14.4%
S&P 500 Pure Growth	2.7%	6.3%	22.0%	-1.3%	10.9%	10.1%	14.4%
S&P 500 Revenue-Weighted	1.9%	6.0%	23.3%	11.0%	15.6%	11.9%	14.0%
S&P 500 Dividend Aristocrats	3.7%	7.6%	13.8%	6.1%	11.3%	11.2%	13.6%
S&P 500 Equal Weight	2.5%	6.6%	19.5%	6.0%	13.0%	10.6%	13.4%
S&P 500 Minimum Volatility	3.6%	7.7%	24.5%	7.8%	11.3%	11.5%	13.4%
S&P 500 High Beta	-1.3%	3.4%	14.2%	5.9%	18.1%	11.5%	12.9%
S&P 500 High Dividend	4.6%	11.7%	27.0%	8.4%	9.8%	9.2%	12.6%
S&P 500 Pure Value	1.3%	5.2%	19.3%	7.8%	10.7%	7.7%	12.6%
S&P 500 Low Volatility High Dividend	4.9%	11.0%	25.9%	8.5%	9.0%	9.4%	12.3%
S&P 500 Enhanced Value	0.6%	4.0%	26.2%	9.0%	11.8%	9.3%	12.3%
S&P 500 Value	3.0%	7.1%	23.6%	11.5%	13.8%	10.5%	12.3%
S&P 500 Low Volatility	5.2%	9.7%	19.1%	6.1%	7.2%	9.9%	12.1%
<b>S&amp;P 500</b>	2.4%	7.4%	27.1%	9.4%	15.9%	13.0%	14.3%

VOLATILITY (ANN.)	12M	3Y	5Y	10Y	15Y
S&P 500 Momentum	16.6%	19.3%	18.4%	15.7%	15.1%
S&P 500 Growth	15.0%	20.4%	20.0%	16.6%	15.4%
S&P 500 Buyback	15.0%	18.9%	21.4%	18.3%	16.9%
S&P 500 Quality	11.9%	16.8%	16.9%	14.6%	13.8%
S&P 500 QVM Top 90%	13.1%	17.0%	17.6%	15.1%	14.4%
S&P 500 Pure Growth	13.9%	21.3%	21.8%	17.9%	17.3%
S&P 500 Revenue-Weighted	11.7%	16.2%	18.0%	15.5%	15.0%
S&P 500 Dividend Aristocrats	13.8%	16.8%	17.6%	14.7%	13.7%
S&P 500 Equal Weight	15.5%	18.0%	19.9%	16.6%	16.1%
S&P 500 Minimum Volatility	11.3%	14.7%	15.6%	13.1%	12.0%
S&P 500 High Beta	24.0%	26.3%	30.2%	25.5%	24.8%
S&P 500 High Dividend	17.0%	18.6%	22.8%	18.0%	16.2%
S&P 500 Pure Value	18.1%	20.5%	25.4%	21.0%	20.1%
S&P 500 Low Volatility High Dividend	13.8%	16.4%	19.1%	15.5%	14.0%
S&P 500 Enhanced Value	14.7%	19.7%	23.9%	20.1%	18.9%
S&P 500 Value	14.0%	16.4%	17.9%	15.4%	14.9%
S&P 500 Low Volatility	10.3%	13.8%	14.8%	12.4%	11.4%
<b>S&amp;P 500</b>	13.4%	17.4%	17.9%	15.2%	14.5%

Performance figures for more than one year are annualized.

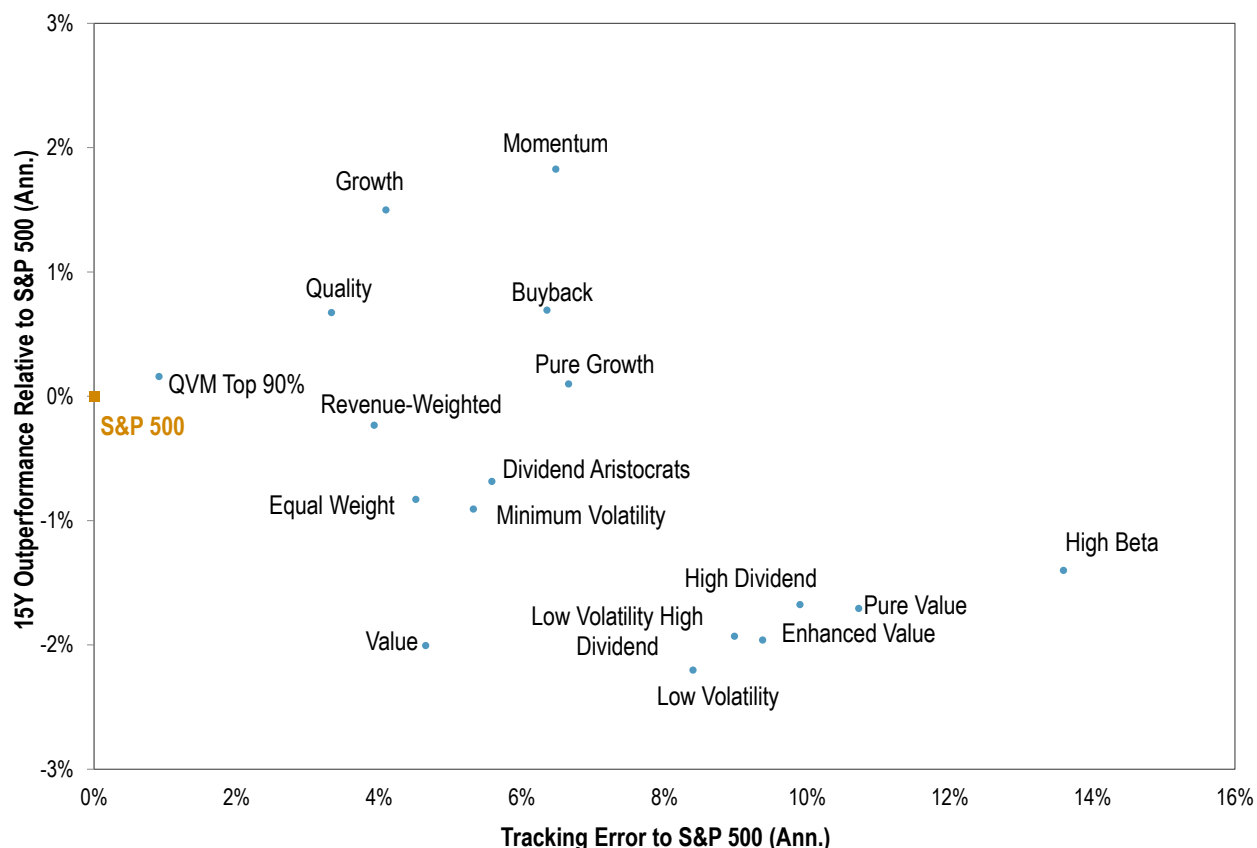
# S&P Dow Jones Indices

A Division of S&P Global

Index Dashboard: S&P 500® Factor Indices

August 2024

## TO S&P 500



## RELATIVE RETURN AND TRACKING ERROR

PERFORMANCE v S&P 500	1M	3M	1YR	3YR	5YR	10YR	15YR	TRACKING ERROR v S&P 500 (ANN.)	1YR	3YR	5YR	10YR	15YR
S&P 500 Momentum	1.4%	2.5%	27.7%	4.4%	2.9%	2.5%	1.8%	S&P 500 Momentum	8.0%	9.3%	8.8%	7.3%	6.5%
S&P 500 Growth	-0.2%	0.5%	3.4%	-2.5%	1.1%	1.7%	1.5%	S&P 500 Growth	5.1%	6.1%	6.0%	4.7%	4.1%
S&P 500 Buyback	-0.4%	0.9%	-3.2%	-2.1%	-1.3%	-1.5%	0.7%	S&P 500 Buyback	7.5%	8.2%	8.9%	7.2%	6.4%
S&P 500 Quality	0.8%	1.5%	1.9%	1.9%	1.2%	0.1%	0.7%	S&P 500 Quality	3.3%	3.9%	4.0%	3.4%	3.3%
S&P 500 QVM Top 90%	0.0%	-0.1%	1.6%	0.6%	0.4%	0.2%	0.2%	S&P 500 QVM Top 90%	1.1%	1.7%	1.4%	1.1%	0.9%
S&P 500 Pure Growth	0.2%	-1.1%	-5.2%	-10.7%	-5.0%	-2.8%	0.1%	S&P 500 Pure Growth	5.7%	8.9%	8.6%	6.9%	6.7%
S&P 500 Revenue-Weighted	-0.5%	-1.4%	-3.8%	1.6%	-0.4%	-1.1%	-0.2%	S&P 500 Revenue-Weighted	5.5%	5.8%	5.8%	4.6%	3.9%
S&P 500 Dividend Aristocrats	1.2%	0.2%	-13.3%	-3.3%	-4.6%	-1.8%	-0.7%	S&P 500 Dividend Aristocrats	7.9%	8.0%	7.3%	6.1%	5.6%
S&P 500 Equal Weight	0.1%	-0.8%	-7.6%	-3.4%	-2.9%	-2.4%	-0.8%	S&P 500 Equal Weight	6.7%	6.3%	6.5%	5.0%	4.5%
S&P 500 Minimum Volatility	1.2%	0.3%	-2.6%	-1.6%	-4.6%	-1.5%	-0.9%	S&P 500 Minimum Volatility	4.2%	5.9%	5.5%	5.3%	5.3%
S&P 500 High Beta	-3.7%	-4.0%	-12.9%	-3.5%	2.2%	-1.5%	-1.4%	S&P 500 High Beta	13.6%	13.3%	16.9%	14.1%	13.6%
S&P 500 High Dividend	2.1%	4.4%	-0.1%	-1.0%	-6.2%	-3.8%	-1.7%	S&P 500 High Dividend	10.6%	12.1%	13.6%	10.8%	9.9%
S&P 500 Pure Value	-1.1%	-2.1%	-7.9%	-1.6%	-5.2%	-5.3%	-1.7%	S&P 500 Pure Value	10.6%	12.9%	15.0%	11.5%	10.7%
S&P 500 Low Volatility High Dividend	2.4%	3.6%	-1.2%	-0.9%	-6.9%	-3.6%	-1.9%	S&P 500 Low Volatility High Dividend	9.4%	11.4%	11.3%	9.4%	9.0%
S&P 500 Enhanced Value	-1.8%	-3.4%	-0.9%	-0.4%	-4.1%	-3.7%	-2.0%	S&P 500 Enhanced Value	9.9%	11.4%	13.3%	10.6%	9.4%
S&P 500 Value	0.5%	-0.3%	-3.5%	2.1%	-2.1%	-2.5%	-2.0%	S&P 500 Value	6.5%	6.8%	6.8%	5.4%	4.6%
S&P 500 Low Volatility	2.8%	2.3%	-8.0%	-3.3%	-8.8%	-3.1%	-2.2%	S&P 500 Low Volatility	8.2%	10.0%	9.6%	8.6%	8.4%

Performance figures for more than one year are annualized.

# S&P Dow Jones Indices

A Division of **S&P Global**

## Index Dashboard: S&P 500® Factor Indices

August 2024

### DEGREE OF PORTFOLIO OVERLAP AND RELATIVE RETURN CORRELATIONS

#### PORTFOLIO OVERLAP

	S&P 500 Momentum	S&P 500 Growth	S&P 500 Quality	S&P 500 Pure Growth	S&P 500 Low Volatility	S&P 500 Minimum Volatility	S&P 500 QVM Top 90%	S&P 500 Dividend Aristocrats	S&P 500 Low Volatility High Dividend	S&P 500 High Dividend	S&P 500 Revenue-Weighted	S&P 500 Value	S&P 500 Equal Weight	S&P 500 Pure Value	S&P 500 Buyback	S&P 500 Enhanced Value	S&P 500 High Beta	S&P 500
S&P 500 Momentum	100%	64%	28%	28%	10%	28%	50%	5%	1%	1%	24%	18%	17%	5%	9%	8%	22%	49%
S&P 500 Growth	64%	100%	27%	32%	10%	26%	62%	5%	1%	1%	31%	22%	27%	0%	11%	1%	23%	66%
S&P 500 Quality	28%	27%	100%	15%	18%	20%	28%	15%	4%	1%	18%	18%	19%	3%	12%	6%	15%	27%
S&P 500 Pure Growth	28%	32%	15%	100%	1%	17%	22%	1%	0%	0%	11%	0%	12%	0%	17%	4%	39%	24%
S&P 500 Low Volatility	10%	10%	18%	1%	100%	17%	22%	27%	19%	15%	21%	31%	20%	12%	19%	10%	0%	21%
S&P 500 Minimum Volatility	28%	26%	20%	17%	17%	100%	32%	10%	12%	10%	25%	23%	14%	9%	10%	10%	15%	32%
S&P 500 QVM Top 90%	50%	62%	28%	22%	22%	32%	100%	14%	8%	8%	57%	56%	45%	11%	17%	14%	18%	91%
S&P 500 Dividend Aristocrats	5%	5%	15%	1%	27%	10%	14%	100%	18%	15%	15%	22%	13%	6%	10%	7%	2%	13%
S&P 500 Low Volatility High Dividend	1%	1%	4%	0%	19%	12%	8%	18%	100%	53%	11%	17%	10%	10%	4%	12%	0%	9%
S&P 500 High Dividend	1%	1%	1%	0%	15%	10%	8%	15%	53%	100%	14%	18%	17%	25%	5%	16%	5%	8%
S&P 500 Revenue-Weighted	24%	31%	18%	11%	21%	25%	57%	15%	11%	14%	100%	60%	49%	33%	26%	36%	12%	58%
S&P 500 Value	18%	22%	18%	0%	31%	23%	56%	22%	17%	18%	60%	100%	55%	21%	18%	27%	8%	56%
S&P 500 Equal Weight	17%	27%	19%	12%	20%	14%	45%	13%	10%	17%	49%	55%	100%	19%	20%	20%	19%	48%
S&P 500 Pure Value	5%	0%	3%	0%	12%	9%	11%	6%	10%	25%	33%	21%	19%	100%	22%	22%	47%	10%
S&P 500 Buyback	9%	11%	12%	17%	19%	10%	17%	10%	4%	5%	26%	18%	20%	22%	100%	23%	17%	16%
S&P 500 Enhanced Value	8%	1%	6%	4%	10%	10%	14%	7%	12%	16%	36%	27%	20%	47%	23%	100%	5%	12%
S&P 500 High Beta	22%	23%	15%	39%	0%	15%	18%	2%	0%	5%	12%	8%	19%	7%	17%	5%	100%	19%

"Portfolio Overlap" is percentage of index weights held in common between any two indices.

#### RELATIVE RETURN CORRELATIONS

	S&P 500 Momentum	S&P 500 Growth	S&P 500 Quality	S&P 500 Pure Growth	S&P 500 Low Volatility	S&P 500 Minimum Volatility	S&P 500 QVM Top 90%	S&P 500 Dividend Aristocrats	S&P 500 Low Volatility High Dividend	S&P 500 High Dividend	S&P 500 Revenue-Weighted	S&P 500 Value	S&P 500 Equal Weight	S&P 500 Pure Value	S&P 500 Buyback	S&P 500 Enhanced Value	S&P 500 High Beta
S&P 500 Momentum	1.00	0.21	0.37	0.34	0.16	0.10	0.12	-0.30	-0.30	-0.38	-0.22	-0.29	-0.38	-0.37	-0.31	-0.35	-0.54
S&P 500 Growth	0.21	1.00	-0.10	0.47	-0.52	-0.43	-0.38	-0.81	-0.86	-0.82	-0.86	-0.98	-0.75	-0.78	-0.63	-0.76	-0.32
S&P 500 Quality	0.37	-0.10	1.00	0.03	-0.02	0.07	0.04	0.03	-0.15	-0.20	0.03	0.06	-0.15	-0.18	-0.12	-0.15	-0.29
S&P 500 Pure Growth	0.34	0.47	0.03	1.00	-0.31	-0.26	0.08	-0.44	-0.41	-0.27	-0.42	-0.46	-0.03	-0.20	0.06	-0.16	0.15
S&P 500 Low Volatility	0.16	-0.52	-0.02	-0.31	1.00	0.82	0.38	0.60	0.60	0.37	0.34	0.48	0.24	0.16	0.15	0.18	-0.36
S&P 500 Minimum Volatility	0.10	-0.43	0.07	-0.26	0.82	1.00	0.29	0.54	0.50	0.25	0.28	0.40	0.16	0.05	0.03	0.06	-0.38
S&P 500 QVM Top 90%	0.12	-0.38	0.04	0.08	0.38	0.29	1.00	0.32	0.45	0.44	0.23	0.36	0.45	0.43	0.52	0.46	0.17
S&P 500 Dividend Aristocrats	-0.30	-0.81	0.03	-0.44	0.60	0.54	0.32	1.00	0.82	0.70	0.76	0.83	0.69	0.59	0.54	0.59	0.22
S&P 500 Low Volatility High Dividend	-0.30	-0.86	-0.15	-0.41	0.60	0.50	0.45	0.82	1.00	0.92	0.79	0.88	0.79	0.78	0.69	0.78	0.36
S&P 500 High Dividend	-0.38	-0.82	-0.20	-0.27	0.37	0.25	0.44	0.70	0.92	1.00	0.79	0.86	0.88	0.92	0.81	0.91	0.60
S&P 500 Revenue-Weighted	-0.22	-0.86	0.03	-0.42	0.34	0.28	0.23	0.76	0.79	0.79	1.00	0.88	0.73	0.79	0.64	0.80	0.40
S&P 500 Value	-0.29	-0.98	0.06	-0.46	0.48	0.40	0.36	0.83	0.88	0.86	0.88	1.00	0.81	0.81	0.67	0.80	0.41
S&P 500 Equal Weight	-0.38	-0.75	-0.15	-0.03	0.24	0.16	0.45	0.69	0.79	0.88	0.73	0.81	1.00	0.90	0.91	0.89	0.75
S&P 500 Pure Value	-0.37	-0.78	-0.18	-0.20	0.16	0.05	0.43	0.59	0.78	0.92	0.79	0.81	0.90	1.00	0.87	0.96	0.73
S&P 500 Buyback	-0.31	-0.63	-0.12	0.06	0.15	0.03	0.52	0.54	0.69	0.81	0.64	0.67	0.91	0.87	1.00	0.89	0.72
S&P 500 Enhanced Value	-0.35	-0.76	-0.15	-0.16	0.18	0.06	0.46	0.59	0.78	0.91	0.80	0.80	0.89	0.96	0.89	1.00	0.71
S&P 500 High Beta	-0.54	-0.32	-0.29	0.15	-0.36	-0.38	0.17	0.22	0.36	0.60	0.40	0.41	0.75	0.73	0.72	0.71	1.00

Correlation of weekly excess total returns (versus S&P 500), last three years

Source: S&P Dow Jones Indices LLC and/or its affiliates. Data as of August 30, 2024. Returns in U.S. dollars.

# S&P Dow Jones Indices

A Division of **S&P Global**

Index Dashboard: **S&P 500® Factor Indices**

August 2024

## TRACKING ERROR & ACTIVE SHARE- RELATIVE TO S&P 500



## FACTOR EXPOSURE SUMMARY (See following pages for factor details)

INDEX	PAGE No.	LOW VOLATILITY	MOMENTUM	VALUE	HIGH BETA	DIVIDEND	QUALITY	SMALL SIZE
S&P 500 Low Volatility	7	69.3%	-7.0%	36.1%	-56.6%	41.7%	-9.2%	44.0%
S&P 500 Minimum Volatility	7	8.7%	-7.0%	11.5%	-26.4%	21.9%	-11.4%	19.7%
S&P 500 Low Volatility High Dividend	8	27.0%	-45.4%	55.9%	-65.3%	91.2%	-34.1%	57.9%
S&P 500 High Dividend	8	8.7%	-44.9%	61.3%	-41.3%	90.0%	-40.6%	70.6%
S&P 500 Quality	9	8.7%	-10.5%	-6.3%	-6.3%	-0.2%	33.9%	19.7%
S&P 500 Dividend Aristocrats	9	20.5%	-44.9%	36.1%	-49.3%	51.1%	-9.2%	49.5%
S&P 500 Momentum	10	-28.5%	36.4%	-18.2%	29.6%	-28.6%	6.7%	-35.3%
S&P 500 Revenue-Weighted	10	8.7%	-8.9%	63.7%	-29.3%	37.7%	-20.6%	19.7%
S&P 500 QVM Top 90%	11	2.2%	1.9%	11.5%	-6.3%	0.5%	0.8%	-0.7%
S&P 500 Growth	11	-28.5%	11.7%	-25.4%	28.5%	-24.9%	11.2%	-38.3%
S&P 500 Value	12	18.6%	-12.6%	46.8%	-39.7%	44.0%	-20.6%	32.7%
S&P 500 Pure Growth	12	-52.2%	14.8%	-7.4%	46.3%	-32.1%	0.4%	23.1%
S&P 500 Pure Value	13	-12.0%	-17.5%	90.3%	-23.9%	55.6%	-32.6%	57.1%
S&P 500 Buyback	13	-1.8%	-7.2%	63.7%	-12.5%	-0.7%	2.1%	52.7%
S&P 500 High Beta	14	-71.5%	-26.0%	0.8%	58.8%	-22.2%	-9.2%	36.8%
S&P 500 Enhanced Value	14	8.7%	-7.0%	91.0%	-39.7%	58.9%	-32.6%	32.7%
S&P 500 Equal Weight	15	-2.6%	-24.1%	40.7%	-13.5%	29.0%	-9.7%	51.1%

Source: S&P Dow Jones Indices LLC and/or its affiliates. Data as of August 30, 2024. Returns in U.S. dollars.

# S&P Dow Jones Indices

A Division of **S&P Global**

Index Dashboard: S&P 500® Factor Indices  
August 2024

## S&P 500 Low Volatility

### Description

The S&P 500 Low Volatility is designed to measure the performance of the 100 stocks in the S&P 500 with the lowest volatility, measured on a 1-year trailing basis. The weighting of each stock is in inverse proportion to its volatility. As of August 30, 2024 the index comprised 100 constituents.

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	5.2%	9.7%	15.3%	19.1%	6.1%	7.2%	9.9%	12.1%
Relative to Benchmark	2.8%	2.3%	-4.2%	-8.0%	-3.3%	-8.8%	-3.1%	-2.2%
Index Volatility				10.3%	13.8%	14.8%	12.4%	11.4%
Tracking Error				8.2%	10.0%	9.6%	8.6%	8.4%

Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 0.41

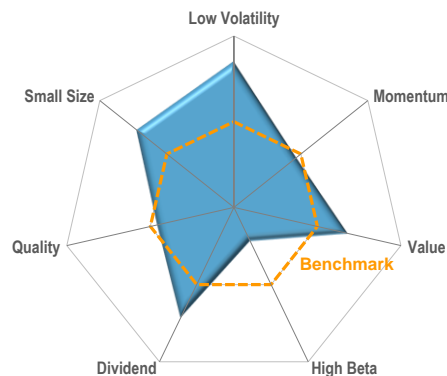
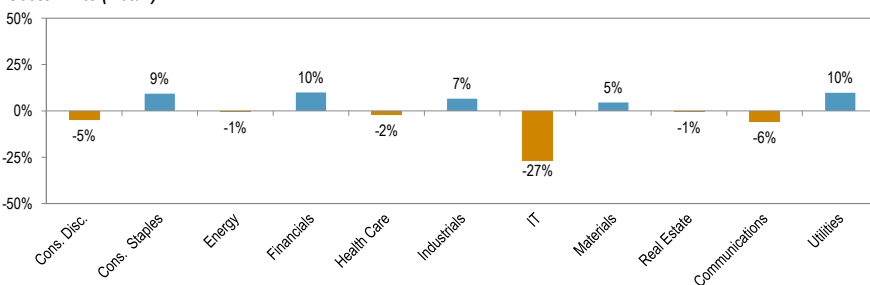
Portfolio Statistics	Index	Bmark
Active Share (Stock)	79%	0%
Active Share (Sector)	40%	0%
Concentration (HH Index)	101.1	186.2
Correlation (stock)	0.31	0.20
Ann. Turnover (last 10 yr)	0.63	0.04

Index-Weighted Avg.	Index	Bmark
Stock Volatility	18%	27%
12M - 1M price return	18%	31%
Book/Price	0.26	0.19
Earnings/Price	0.04	0.04
Sales/Price	0.42	0.32
Stock Beta	0.42	1.03
Yield (12M trailing)	2.1%	1.3%
R.O.E.	29%	38%
Market Cap (U.S. \$ bn)	123.1	919.8

### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Difference
Financials	23%	13%	10%
Utilities	12%	2%	10%
IT	4%	31%	27%
Communications	3%	9%	6%

### Sector Tilts (Detail)



Factor Exposure Chart

## S&P 500 Minimum Volatility

### Description

The S&P 500 Minimum Volatility uses an optimization process to find the portfolio of S&P 500 stocks, and weights, that would have demonstrated the lowest volatility on a historical basis, subject to constraints maintaining limiting sector and factor exposures. As of August 30, 2024 the index comprised 79 constituents.

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	3.6%	7.7%	18.7%	24.5%	7.8%	11.3%	11.5%	13.4%
Relative to Benchmark	1.2%	0.3%	-0.8%	-2.6%	-1.6%	-4.6%	-1.5%	-0.9%
Index Volatility				11.3%	14.7%	15.6%	13.1%	12.0%
Tracking Error				4.2%	5.9%	5.5%	5.3%	5.3%

Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 0.72

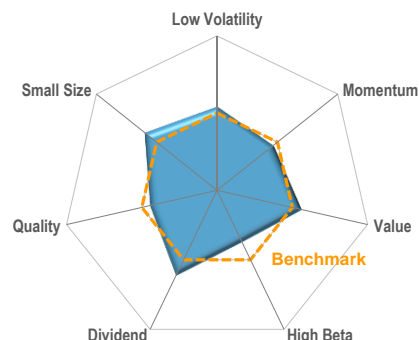
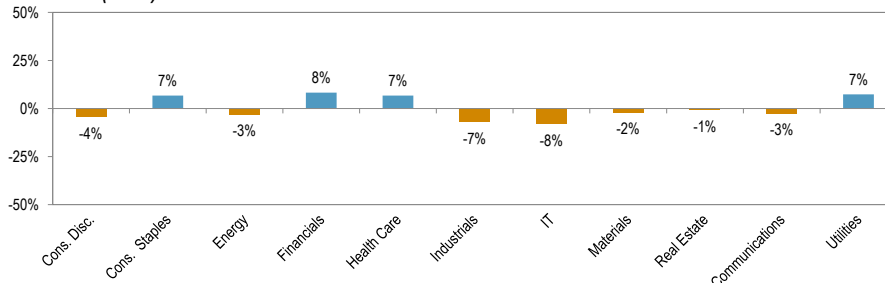
Portfolio Statistics	Index	Bmark
Active Share (Stock)	68%	0%
Active Share (Sector)	29%	0%
Concentration (HH Index)	208.1	186.2
Correlation (stock)	0.16	0.20
Ann. Turnover (last 10 yr)	0.32	0.04

Index-Weighted Avg.	Index	Bmark
Stock Volatility	25%	27%
12M - 1M price return	26%	31%
Book/Price	0.23	0.19
Earnings/Price	0.04	0.04
Sales/Price	0.33	0.32
Stock Beta	0.70	1.03
Yield (12M trailing)	1.6%	1.3%
R.O.E.	30%	38%
Market Cap (U.S. \$ bn)	520.2	919.8

### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Difference
Financials	22%	13%	8%
Utilities	10%	2%	7%
IT	23%	31%	8%
Industrials	1%	8%	7%

### Sector Tilts (Detail)



Factor Exposure Chart

# S&P Dow Jones Indices

A Division of **S&P Global**

Index Dashboard: S&P 500® Factor Indices  
August 2024

## S&P 500 Low Volatility High Dividend

### Description

The S&P 500 Low Volatility High Dividend measures the performance of the 50 least-volatile high dividend-yielding stocks in the S&P 500. Each component is weighted proportionally to its dividend yield, subject to single stock and sector constraints. As of August 30, 2024 the index comprised 50 constituents.

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	4.9%	11.0%	20.0%	25.9%	8.5%	9.0%	9.4%	12.3%
Relative to Benchmark	2.4%	3.6%	0.4%	-1.2%	-0.9%	-6.9%	-3.6%	-1.9%
Index Volatility				13.8%	16.4%	19.1%	15.5%	14.0%
Tracking Error				9.4%	11.4%	11.3%	9.4%	9.0%

Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 0.49

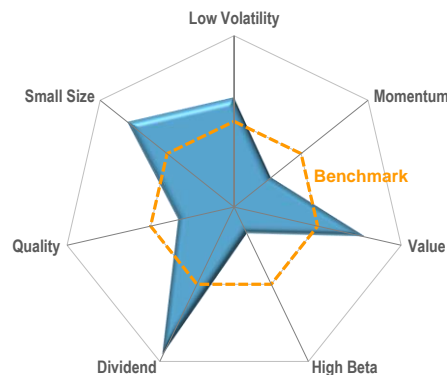
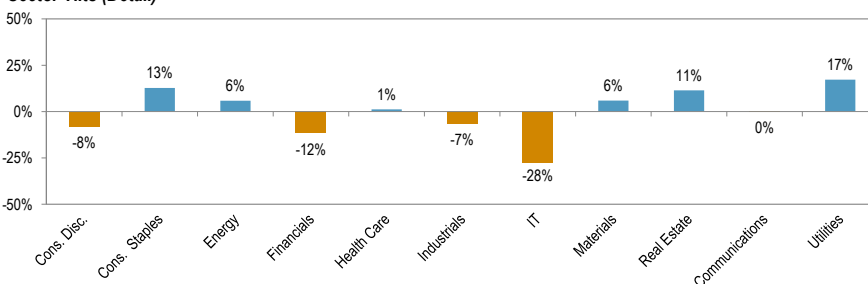
Portfolio Statistics	Index	Bmark
Active Share (Stock)	91%	0%
Active Share (Sector)	54%	0%
Concentration (HH Index)	207.6	186.2
Correlation (stock)	0.31	0.20
Ann. Turnover (last 10 yr)	0.66	0.04

Index-Weighted Avg.	Index	Bmark
Stock Volatility	22%	27%
12M - 1M price return	8%	31%
Book/Price	0.41	0.19
Earnings/Price	0.04	0.04
Sales/Price	0.50	0.32
Stock Beta	0.33	1.03
Yield (12M trailing)	4.3%	1.3%
R.O.E.	16%	38%
Market Cap (U.S. \$ bn)	79.3	919.8

### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Diff.
Utilities	20%	2%	17%
Cons. Staples	19%	6%	13%
IT	3%	31%	28%
Financials	2%	13%	12%

### Sector Tilts (Detail)



Factor Exposure Chart

## S&P 500 High Dividend

### Description

The S&P 500 High Dividend is constructed from the 80 constituents of the S&P 500 with the highest indicated dividend yield. The index is equal weighted. As of August 30, 2024 the index comprised 80 constituents.

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	4.6%	11.7%	17.6%	27.0%	8.4%	9.8%	9.2%	12.6%
Relative to Benchmark	2.1%	4.4%	-1.9%	-0.1%	-1.0%	-6.2%	-3.8%	-1.7%
Index Volatility				17.0%	18.6%	22.8%	18.0%	16.2%
Tracking Error				10.6%	12.1%	13.6%	10.8%	9.9%

Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 0.69

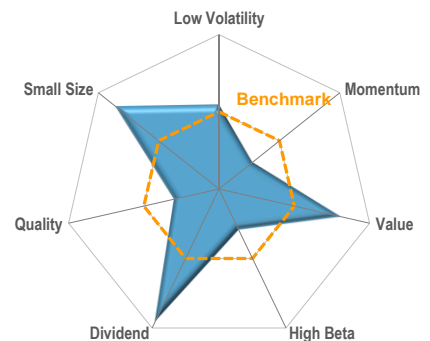
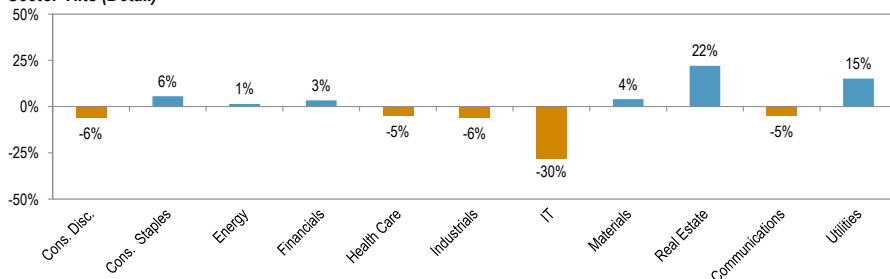
Portfolio Statistics	Index	Bmark
Active Share (Stock)	92%	0%
Active Share (Sector)	51%	0%
Concentration (HH Index)	125.7	186.2
Correlation (stock)	0.36	0.20
Ann. Turnover (last 10 yr)	1.14	0.04

Index-Weighted Avg.	Index	Bmark
Stock Volatility	25%	27%
12M - 1M price return	10%	31%
Book/Price	0.49	0.19
Earnings/Price	0.04	0.04
Sales/Price	0.56	0.32
Stock Beta	0.58	1.03
Yield (12M trailing)	4.2%	1.3%
R.O.E.	13%	38%
Market Cap (U.S. \$ bn)	51.6	919.8

### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Diff.
Real Estate	24%	2%	22%
Utilities	18%	2%	15%
IT	1%	31%	30%
Cons. Disc.	4%	10%	6%

### Sector Tilts (Detail)



Factor Exposure Chart



# S&P Dow Jones Indices

A Division of **S&P Global**

Index Dashboard: S&P 500® Factor Indices  
August 2024

## S&P 500 Quality

### Description

The S&P 500 Quality is designed to track the 100 stocks in the S&P 500 with the highest quality score, which is calculated based on return on equity, accruals ratio and financial leverage ratio. The weighting is proportional to both the quality score, and the market capitalization, of each component, subject to single stock and sector constraints. As of August 30, 2024 the index comprised 100 constituents.

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	3.2%	8.9%	24.2%	29.0%	11.3%	17.1%	13.1%	14.9%
Relative to Benchmark	0.8%	1.5%	4.7%	1.9%	1.9%	1.2%	0.1%	0.7%
Index Volatility				11.9%	16.8%	16.9%	14.6%	13.8%
Tracking Error				3.3%	3.9%	4.0%	3.4%	3.3%

Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 0.94

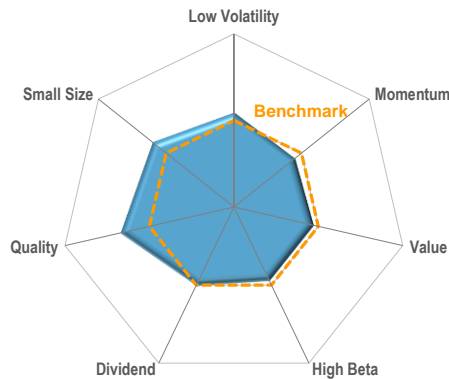
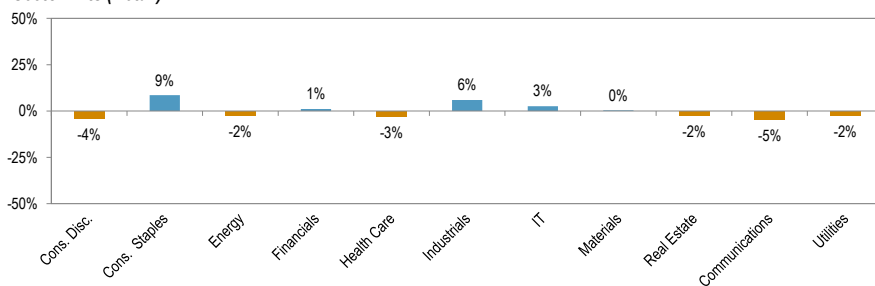
Portfolio Statistics	Index	Bmark
Active Share (Stock)	73%	0%
Active Share (Sector)	19%	0%
Concentration (HH Index)	272.8	186.2
Correlation (stock)	0.23	0.20
Ann. Turnover (last 10 yr)	0.60	0.04

Index-Weighted Avg.	Index	Bmark
Stock Volatility	25%	27%
12M - 1M price return	23%	31%
Book/Price	0.11	0.19
Earnings/Price	0.04	0.04
Sales/Price	0.31	0.32
Stock Beta	0.93	1.03
Yield (12M trailing)	1.3%	1.3%
R.O.E.	46%	38%
Market Cap (U.S. \$ bn)	530.4	919.8

### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Diff.
Cons. Staples	15%	6%	9%
Industrials	14%	8%	6%
Communications	4%	9%	5%
Cons. Disc.	6%	10%	4%

### Sector Tilts (Detail)



Factor Exposure Chart

## S&P 500 Dividend Aristocrats

### Description

The S&P 500 Dividend Aristocrats measures the performance S&P 500 companies that have increased dividends every year for the last 25 consecutive years. The Index is equally weighted at each rebalance. As of August 30, 2024 the index comprised 66 constituents.

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	3.7%	7.6%	11.4%	13.8%	6.1%	11.3%	11.2%	13.6%
Relative to Benchmark	1.2%	0.2%	-8.1%	-13.3%	-3.3%	-4.6%	-1.8%	-0.7%
Index Volatility				13.8%	16.8%	17.6%	14.7%	13.7%
Tracking Error				7.9%	8.0%	7.3%	6.1%	5.6%

Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 0.58

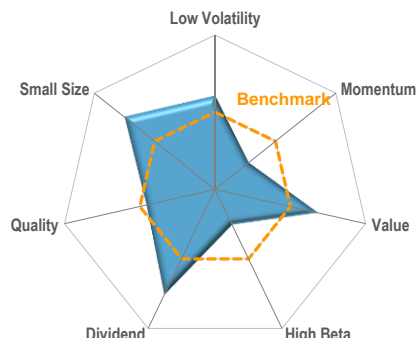
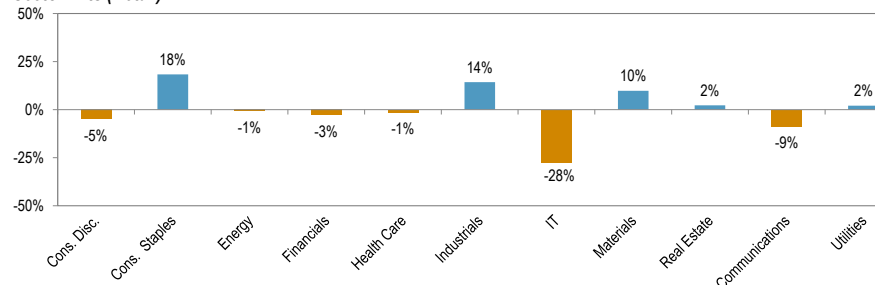
Portfolio Statistics	Index	Bmark
Active Share (Stock)	87%	0%
Active Share (Sector)	47%	0%
Concentration (HH Index)	152.0	186.2
Correlation (stock)	0.24	0.20
Ann. Turnover (last 10 yr)	0.19	0.04

Index-Weighted Avg.	Index	Bmark
Stock Volatility	22%	27%
12M - 1M price return	8%	31%
Book/Price	0.26	0.19
Earnings/Price	0.04	0.04
Sales/Price	0.51	0.32
Stock Beta	0.54	1.03
Yield (12M trailing)	2.3%	1.3%
R.O.E.	29%	38%
Market Cap (U.S. \$ bn)	101.4	919.8

### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Diff.
Cons. Staples	24%	6%	18%
Industrials	23%	8%	14%
IT	3%	31%	28%
Communications	0%	9%	9%

### Sector Tilts (Detail)



Factor Exposure Chart

# S&P Dow Jones Indices

A Division of **S&P Global**

Index Dashboard: S&P 500® Factor Indices  
August 2024

## S&P 500 Momentum

### Description

The S&P 500 Momentum comprises the top 100 stocks in the S&P 500 based on 12M prior risk-adjusted performance (excluding the most recent month at the rebalance). The weighting is inversely proportional to the trailing volatility of each component, subject to single stock and sector constraints. As of August 30, 2024 the index comprised 99 constituents

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	3.8%	9.9%	36.8%	54.8%	13.8%	18.8%	15.5%	16.1%
Relative to Benchmark	1.4%	2.5%	17.3%	27.7%	4.4%	2.9%	2.5%	1.8%
Index Volatility				16.6%	19.3%	18.4%	15.7%	15.1%
Tracking Error				8.0%	9.3%	8.8%	7.3%	6.5%

Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 1.27

### Portfolio Statistics

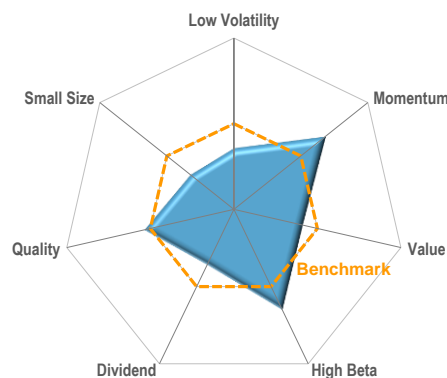
	Index	Bmark
Active Share (Stock)	51%	0%
Active Share (Sector)	20%	0%
Concentration (HH Index)	537.2	186.2
Correlation (stock)	0.32	0.20
Ann. Turnover (last 10 yr)	1.07	0.04

### Index-Weighted Avg.

	Index	Bmark
Stock Volatility	30%	27%
12M - 1M price return	52%	31%
Book/Price	0.11	0.19
Earnings/Price	0.03	0.04
Sales/Price	0.21	0.32
Stock Beta	1.35	1.03
Yield (12M trailing)	0.6%	1.3%
R.O.E.	46%	38%
Market Cap (U.S. \$ bn)	1386.3	919.8

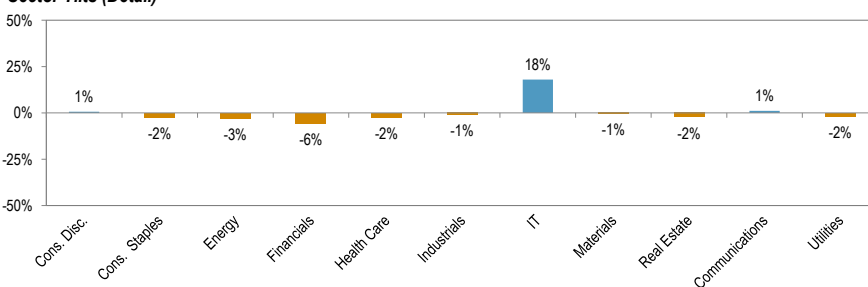
### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Diff.
IT	49%	31%	18%
Communications	10%	9%	1%
Financials	8%	13%	6%
Energy	0%	4%	3%



Factor Exposure Chart

### Sector Tilts (Detail)



## S&P 500 Revenue-Weighted

### Description

The S&P 500 Revenue-Weighted comprises all the constituents of the S&P 500, weighted in proportion to revenues. As of August 30, 2024 the index comprised 503 constituents.

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	1.9%	6.0%	15.5%	23.3%	11.0%	15.6%	11.9%	14.0%
Relative to Benchmark	-0.5%	-1.4%	-4.1%	-3.8%	1.6%	-0.4%	-1.1%	-0.2%
Index Volatility				11.7%	16.2%	18.0%	15.5%	15.0%
Tracking Error				5.5%	5.8%	5.8%	4.6%	3.9%

Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 0.7

### Portfolio Statistics

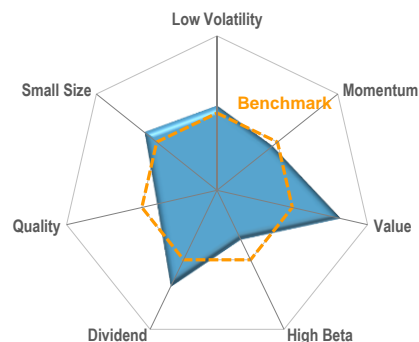
	Index	Bmark
Active Share (Stock)	42%	0%
Active Share (Sector)	25%	0%
Concentration (HH Index)	96.0	186.2
Correlation (stock)	0.16	0.20
Ann. Turnover (last 10 yr)	0.20	0.04

### Index-Weighted Avg.

	Index	Bmark
Stock Volatility	25%	27%
12M - 1M price return	20%	31%
Book/Price	0.33	0.19
Earnings/Price	0.05	0.04
Sales/Price	0.96	0.32
Stock Beta	0.68	1.03
Yield (12M trailing)	1.9%	1.3%
R.O.E.	26%	38%
Market Cap (U.S. \$ bn)	388.5	919.8

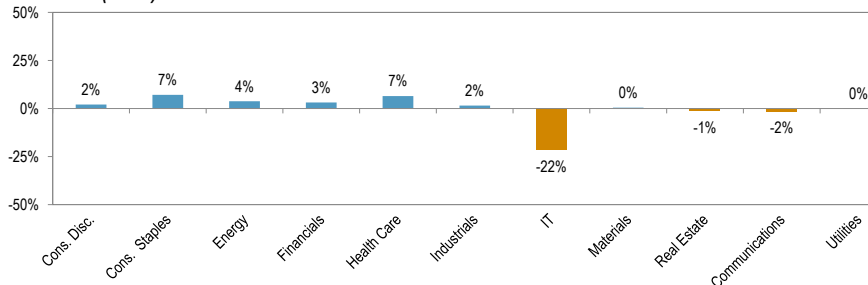
### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Diff.
Cons. Staples	13%	6%	7%
Health Care	19%	12%	7%
IT	9%	31%	22%
Communications	7%	9%	2%



Factor Exposure Chart

### Sector Tilts (Detail)



# S&P Dow Jones Indices

A Division of **S&P Global**

Index Dashboard: S&P 500® Factor Indices  
August 2024

## S&P 500 QVM Top 90%

### Description

The S&P 500 Quality, Value & Momentum Top 90% Multi-factor Index is designed to measure the performance of 90% of the stocks within the S&P 500, after excluding those with the lowest quality, value, and momentum as determined by a multi-factor score. As of August 30, 2024 the index comprised 450 constituents.

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	2.5%	7.3%	21.0%	28.8%	9.9%	16.3%	13.2%	14.4%
Relative to Benchmark	0.0%	-0.1%	1.5%	1.6%	0.6%	0.4%	0.2%	0.2%
Index Volatility				13.1%	17.0%	17.6%	15.1%	14.4%
Tracking Error				1.1%	1.7%	1.4%	1.1%	0.9%

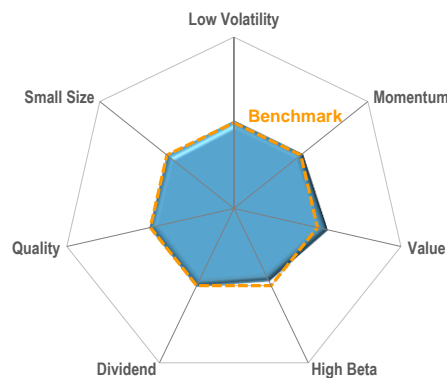
Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 0.99

### Portfolio Statistics

	Index	Bmark
Active Share (Stock)	9%	0%
Active Share (Sector)	3%	0%
Concentration (HH Index)	200.3	186.2
Correlation (stock)	0.21	0.20
Ann. Turnover (last 10 yr)	0.19	0.04

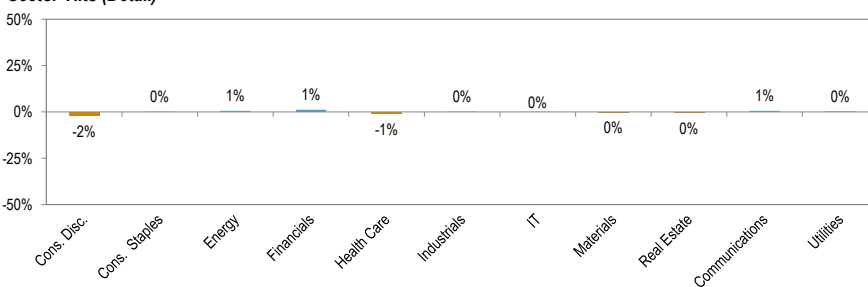
### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Diff.
Financials	14%	13%	1%
Communications	9%	9%	1%
Cons. Disc.	8%	10%	2%
Health Care	12%	12%	1%



Factor Exposure Chart

### Sector Tilts (Detail)



### Index-Weighted Avg.

	Index	Bmark
Stock Volatility	26%	27%
12M - 1M price return	32%	31%
Book/Price	0.21	0.19
Earnings/Price	0.04	0.04
Sales/Price	0.34	0.32
Stock Beta	1.01	1.03
Yield (12M trailing)	1.3%	1.3%
R.O.E.	37%	38%
Market Cap (U.S. \$ bn)	926.1	919.8

## S&P 500 Growth

### Description

The S&P 500 Growth index comprises S&P 500 stocks with above-average combinations of the ratio of earnings growth to price, sales growth, and momentum. The weighting is by capitalization, although the weight of some stocks is divided between the Value and Growth indices. As of August 30, 2024 the index comprised 231 constituents.

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	2.2%	7.9%	24.6%	30.5%	6.9%	17.0%	14.7%	15.8%
Relative to Benchmark	-0.2%	0.5%	5.1%	3.4%	-2.5%	1.1%	1.7%	1.5%
Index Volatility				15.0%	20.4%	20.0%	16.6%	15.4%
Tracking Error				5.1%	6.1%	6.0%	4.7%	4.1%

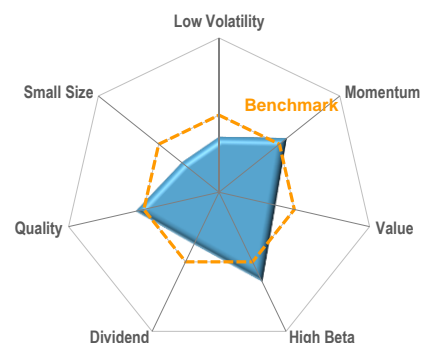
Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 1.25

### Portfolio Statistics

	Index	Bmark
Active Share (Stock)	34%	0%
Active Share (Sector)	24%	0%
Concentration (HH Index)	511.0	186.2
Correlation (stock)	0.29	0.20
Ann. Turnover (last 10 yr)	0.25	0.04

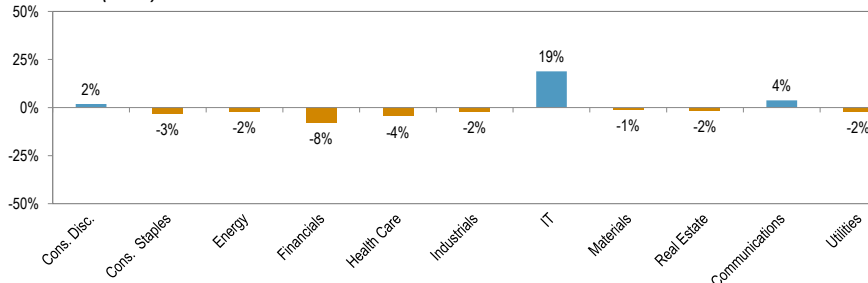
### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Diff.
IT	50%	31%	19%
Communications	13%	9%	4%
Financials	5%	13%	8%
Health Care	8%	12%	4%



Factor Exposure Chart

### Sector Tilts (Detail)



# S&P Dow Jones Indices

A Division of **S&P Global**

Index Dashboard: S&P 500® Factor Indices  
August 2024

## S&P 500 Value

### Description

The S&P 500 Value comprises S&P 500 stocks with above-average combinations of book value-to-price, earnings-to-price, and sales-to-price. The weighting is by capitalization, although the weight of some stocks is divided between the Value and Growth indices. As of August 30, 2024 the index comprised 438 constituents.

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	3.0%	7.1%	14.1%	23.6%	11.5%	13.8%	10.5%	12.3%
Relative to Benchmark	0.5%	-0.3%	-5.4%	-3.5%	2.1%	-2.1%	-2.5%	-2.0%
Index Volatility				14.0%	16.4%	17.9%	15.4%	14.9%
Tracking Error				6.5%	6.8%	6.8%	5.4%	4.6%

Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 0.69

### Portfolio Statistics

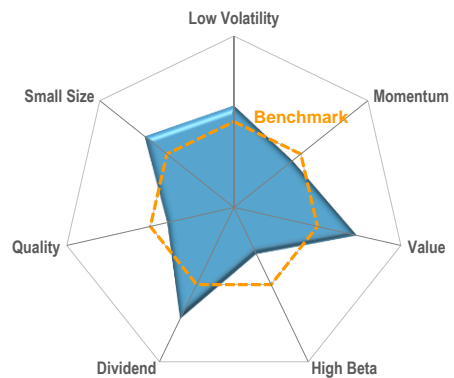
	Index	Bmark
Active Share (Stock)	44%	0%
Active Share (Sector)	32%	0%
Concentration (HH Index)	79.7	186.2
Correlation (stock)	0.23	0.20
Ann. Turnover (last 10 yr)	0.27	0.04

### Index-Weighted Avg.

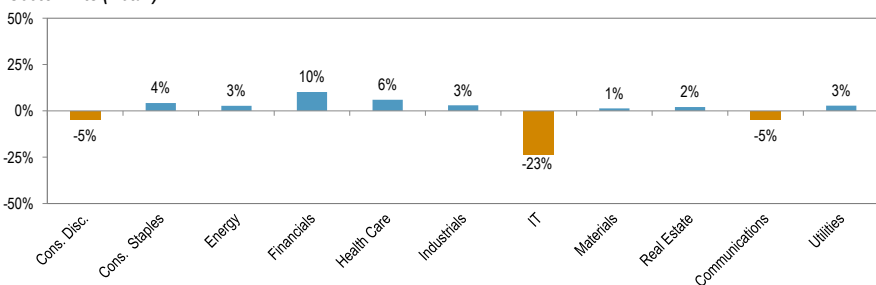
	Index	Bmark
Stock Volatility	23%	27%
12M - 1M price return	17%	31%
Book/Price	0.33	0.19
Earnings/Price	0.04	0.04
Sales/Price	0.52	0.32
Stock Beta	0.62	1.03
Yield (12M trailing)	2.1%	1.3%
R.O.E.	22%	38%
Market Cap (U.S. \$ bn)	208.2	919.8

### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Diff.
Financials	24%	13%	10%
Health Care	18%	12%	6%
IT	8%	31%	23%
Cons. Disc.	5%	10%	5%



### Sector Tilts (Detail)



Factor Exposure Chart

## S&P 500 Pure Growth

### Description

The S&P 500 Pure Growth comprises those S&P 500 stocks with 100% of their market cap in the S&P 500 Growth index and a growth score in the highest quartile. The weighting is proportional to the growth score. As of August 30, 2024 the index comprised 65 constituents.

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	2.7%	6.3%	17.5%	22.0%	-1.3%	10.9%	10.1%	14.4%
Relative to Benchmark	0.2%	-1.1%	-2.0%	-5.2%	-10.7%	-5.0%	-2.8%	0.1%
Index Volatility				13.9%	21.3%	21.8%	17.9%	17.3%
Tracking Error				5.7%	8.9%	8.6%	6.9%	6.7%

Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 1.29

### Portfolio Statistics

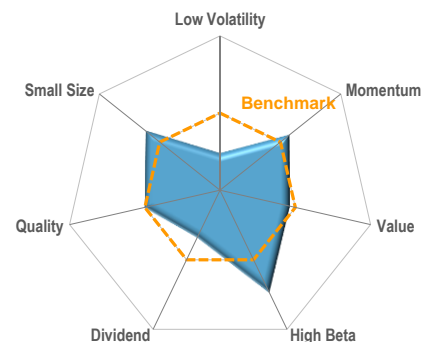
	Index	Bmark
Active Share (Stock)	76%	0%
Active Share (Sector)	30%	0%
Concentration (HH Index)	183.7	186.2
Correlation (stock)	0.27	0.20
Ann. Turnover (last 10 yr)	0.68	0.04

### Index-Weighted Avg.

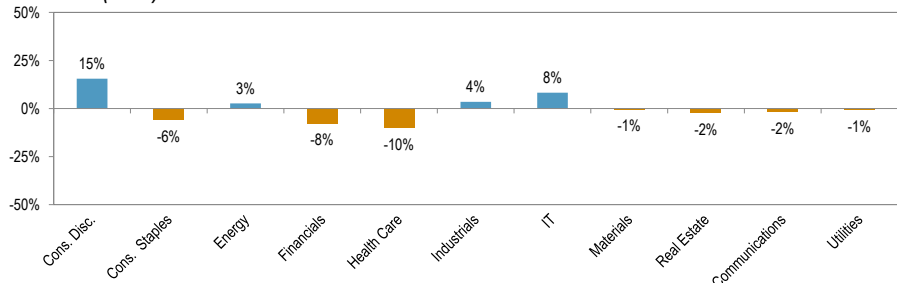
	Index	Bmark
Stock Volatility	35%	27%
12M - 1M price return	46%	31%
Book/Price	0.11	0.19
Earnings/Price	0.04	0.04
Sales/Price	0.26	0.32
Stock Beta	1.50	1.03
Yield (12M trailing)	0.5%	1.3%
R.O.E.	38%	38%
Market Cap (U.S. \$ bn)	361.3	919.8

### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Diff.
Cons. Disc.	25%	10%	15%
IT	39%	31%	8%
Health Care	2%	12%	10%
Financials	6%	13%	8%



### Sector Tilts (Detail)



Factor Exposure Chart

# S&P Dow Jones Indices

A Division of **S&P Global**

Index Dashboard: S&P 500® Factor Indices  
August 2024

## S&P 500 Pure Value

### Description

The S&P 500 Pure Value comprises S&P 500 stocks with 100% of their market cap in the S&P 500 Value index and a value score in the highest quartile. The weighting is proportional to the value score. As of August 30, 2024 the index comprised 95 constituents.

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	1.3%	5.2%	10.6%	19.3%	7.8%	10.7%	7.7%	12.6%
Relative to Benchmark	-1.1%	-2.1%	-9.0%	-7.9%	-1.6%	-5.2%	-5.3%	-1.7%
Index Volatility				18.1%	20.5%	25.4%	21.0%	20.1%
Tracking Error				10.6%	12.9%	15.0%	11.5%	10.7%

Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 0.78

### Portfolio Statistics

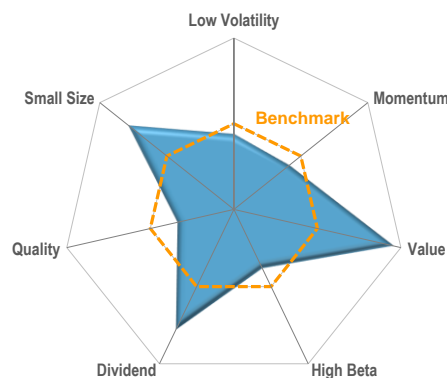
	Index	Bmark
Active Share (Stock)	90%	0%
Active Share (Sector)	37%	0%
Concentration (HH Index)	152.9	186.2
Correlation (stock)	0.28	0.20
Ann. Turnover (last 10 yr)	0.41	0.04

### Index-Weighted Avg.

	Index	Bmark
Stock Volatility	28%	27%
12M - 1M price return	17%	31%
Book/Price	0.67	0.19
Earnings/Price	0.05	0.04
Sales/Price	1.56	0.32
Stock Beta	0.72	1.03
Yield (12M trailing)	2.5%	1.3%
R.O.E.	13%	38%
Market Cap (U.S. \$ bn)	80.6	919.8

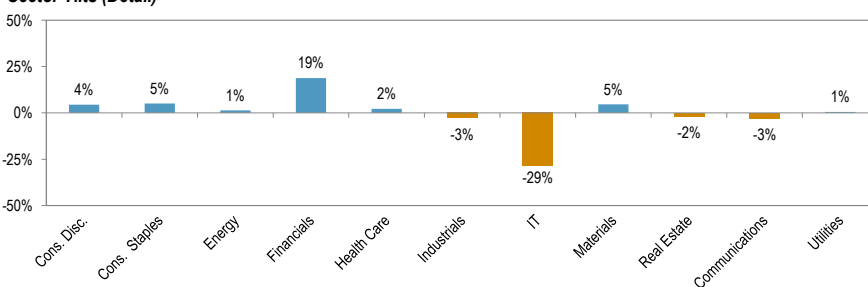
### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Diff.
Financials	32%	13%	19%
Cons. Staples	11%	6%	5%
IT	2%	31%	29%
Communications	6%	9%	3%



Factor Exposure Chart

### Sector Tilts (Detail)



## S&P 500 Buyback

### Description

The S&P 500 Buyback is designed to measure the performance of the top 100 stocks in the S&P 500 by buyback ratio. The components are equally weighted. As of August 30, 2024 the index comprised 100 constituents.

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	2.0%	8.3%	14.7%	24.0%	7.3%	14.6%	11.5%	15.0%
Relative to Benchmark	-0.4%	0.9%	-4.8%	-3.2%	-2.1%	-1.3%	-1.5%	0.7%
Index Volatility				15.0%	18.9%	21.4%	18.3%	16.9%
Tracking Error				7.5%	8.2%	8.9%	7.2%	6.4%

Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 0.82

### Portfolio Statistics

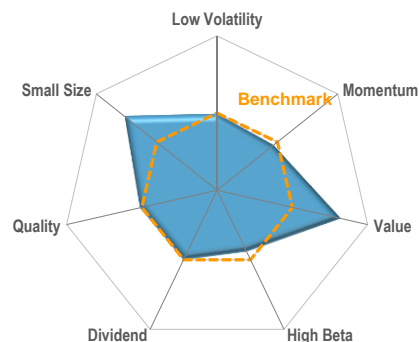
	Index	Bmark
Active Share (Stock)	84%	0%
Active Share (Sector)	27%	0%
Concentration (HH Index)	101.1	186.2
Correlation (stock)	0.23	0.20
Ann. Turnover (last 10 yr)	0.92	0.04

### Index-Weighted Avg.

	Index	Bmark
Stock Volatility	27%	27%
12M - 1M price return	24%	31%
Book/Price	0.30	0.19
Earnings/Price	0.06	0.04
Sales/Price	0.74	0.32
Stock Beta	0.82	1.03
Yield (12M trailing)	1.3%	1.3%
R.O.E.	27%	38%
Market Cap (U.S. \$ bn)	91.8	919.8

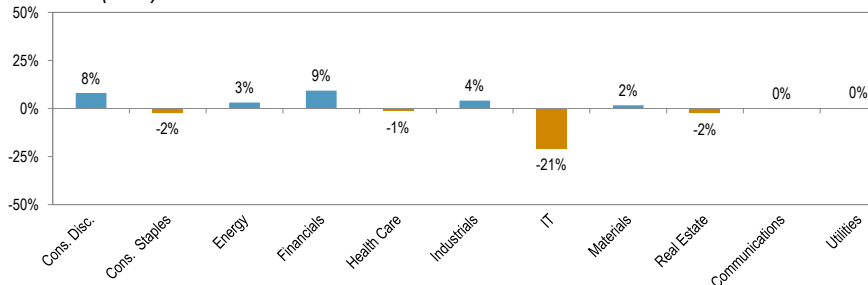
### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Diff.
Financials	23%	13%	9%
Cons. Disc.	18%	10%	8%
IT	10%	31%	21%
Real Estate	0%	2%	2%



Factor Exposure Chart

### Sector Tilts (Detail)



# S&P Dow Jones Indices

A Division of **S&P Global**

Index Dashboard: S&P 500® Factor Indices  
August 2024

## S&P 500 High Beta

### Description

The S&P 500 High Beta is designed to measure the performance of the top 100 stocks in the S&P 500 by sensitivity to market returns. The weighting is in proportional to the beta coefficient of each constituent. As of August 30, 2024 the index comprised 100 constituents.

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	-1.3%	3.4%	4.8%	14.2%	5.9%	18.1%	11.5%	12.9%
Relative to Benchmark	-3.7%	-4.0%	-14.7%	-12.9%	-3.5%	2.2%	-1.5%	-1.4%
Index Volatility				24.0%	26.3%	30.2%	25.5%	24.8%
Tracking Error				13.6%	13.3%	16.9%	14.1%	13.6%

Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 1.47

### Portfolio Statistics

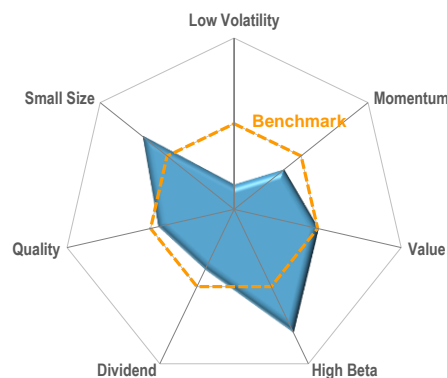
	Index	Bmark
Active Share (Stock)	81%	0%
Active Share (Sector)	30%	0%
Concentration (HH Index)	106.7	186.2
Correlation (stock)	0.28	0.20
Ann. Turnover (last 10 yr)	0.90	0.04

### Index-Weighted Avg.

	Index	Bmark
Stock Volatility	40%	27%
12M - 1M price return	24%	31%
Book/Price	22%	19%
Earnings/Price	3%	4%
Sales/Price	41%	32%
Stock Beta	167%	103%
Yield (12M trailing)	0.7%	1.3%
R.O.E.	25%	38%
Market Cap (U.S. \$ bn)	169.8	919.8

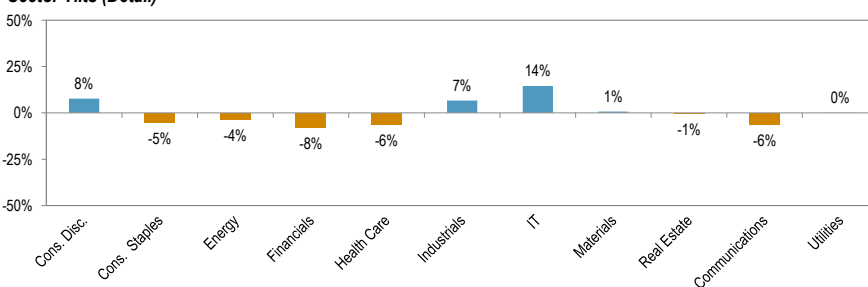
### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Diff.
IT	46%	31%	14%
Cons. Disc.	17%	10%	8%
Financials	5%	13%	8%
Health Care	6%	12%	6%



Factor Exposure Chart

### Sector Tilts (Detail)



## S&P 500 Enhanced Value

### Description

The S&P 500 Enhanced Value is designed to measure the performance of the 100 stocks in the S&P 500 with the highest average book value-to-price, earnings-to-price, and sales-to-price. The weighting is proportional to both the value score and the market capitalization of each component. As of August 30, 2024 the index comprised 100 constituents.

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	0.6%	4.0%	15.5%	26.2%	9.0%	11.8%	9.3%	12.3%
Relative to Benchmark	-1.8%	-3.4%	-4.0%	-0.9%	-0.4%	-4.1%	-3.7%	-2.0%
Index Volatility				14.7%	19.7%	23.9%	20.1%	18.9%
Tracking Error				9.9%	11.4%	13.3%	10.6%	9.4%

Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 0.65

### Portfolio Statistics

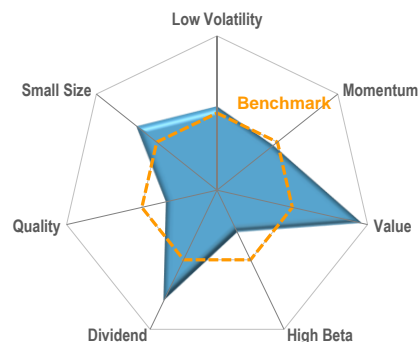
	Index	Bmark
Active Share (Stock)	88%	0%
Active Share (Sector)	41%	0%
Concentration (HH Index)	245.6	186.2
Correlation (stock)	0.31	0.20
Ann. Turnover (last 10 yr)	0.40	0.04

### Index-Weighted Avg.

	Index	Bmark
Stock Volatility	25%	27%
12M - 1M price return	20%	31%
Book/Price	0.61	0.19
Earnings/Price	0.07	0.04
Sales/Price	1.20	0.32
Stock Beta	0.59	1.03
Yield (12M trailing)	2.6%	1.3%
R.O.E.	15%	38%
Market Cap (U.S. \$ bn)	197.6	919.8

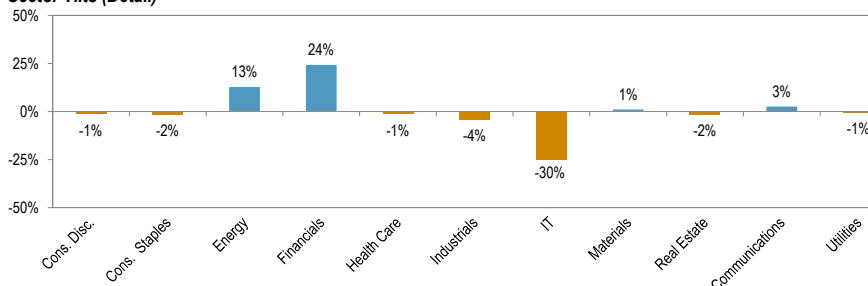
### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Diff.
Financials	38%	13%	24%
Energy	16%	4%	13%
IT	1%	31%	30%
Industrials	4%	8%	4%



Factor Exposure Chart

### Sector Tilts (Detail)



# S&P Dow Jones Indices

A Division of **S&P Global**

Index Dashboard: S&P 500® Factor Indices  
August 2024

## S&P 500 Equal Weight

### Description

The S&P 500 Equal Weight comprises all the constituents in the S&P 500, equally weighted at each quarterly rebalance. As of August 30, 2024 the index comprised 503 constituents.

Index Statistics	1M	3M	YTD	12M	3Y	5Y	10Y	15Y
Total Return (Ann)	2.5%	6.6%	12.5%	19.5%	6.0%	13.0%	10.6%	13.4%
Relative to Benchmark	0.1%	-0.8%	-7.0%	-7.6%	-3.4%	-2.9%	-2.4%	-0.8%
Index Volatility				15.5%	18.0%	19.9%	16.6%	16.1%
Tracking Error				6.7%	6.3%	6.5%	5.0%	4.5%

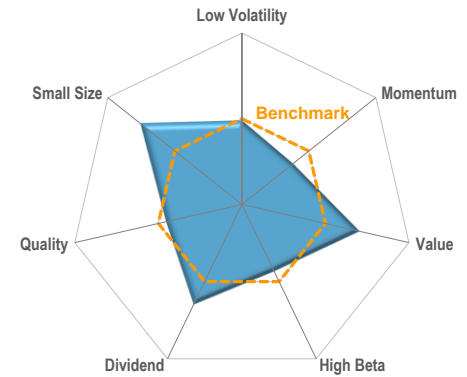
Benchmark: S&P 500. 1 Yr trailing beta to benchmark = 0.83

Portfolio Statistics	Index	Bmark
Active Share (Stock)	52%	0%
Active Share (Sector)	23%	0%
Concentration (HH Index)	20.2	186.2
Correlation (stock)	0.20	0.20
Ann. Turnover (last 10 yr)	0.22	0.04

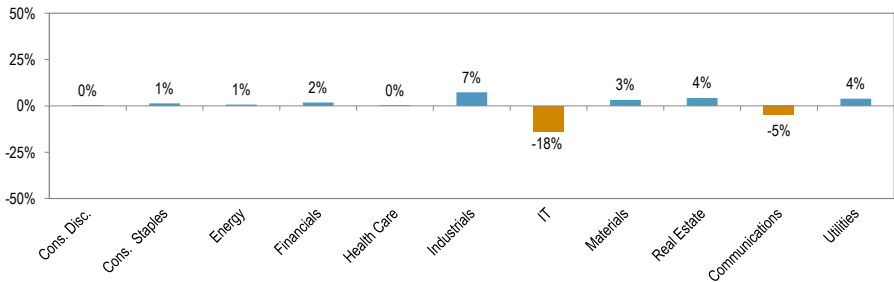
Index-Weighted Avg.	Index	Bmark
Stock Volatility	27%	27%
12M - 1M price return	16%	31%
Book/Price	0.30	0.19
Earnings/Price	0.04	0.04
Sales/Price	0.53	0.32
Stock Beta	0.80	1.03
Yield (12M trailing)	1.8%	1.3%
R.O.E.	24%	38%
Market Cap (U.S. \$ bn)	96.0	919.8

### Top Sector Tilts (versus benchmark)

Sector	Index	Bmark	Diff.
Industrials	16%	8%	7%
Real Estate	7%	2%	4%
IT	13%	31%	18%
Communications	4%	9%	5%



### Sector Tilts (Detail)



## More Factor Resources



Access our latest research, education, videos, and webinars on smart beta at [spglobal.com/spdji/en/landing/investment-themes/factors/](https://spglobal.com/spdji/en/landing/investment-themes/factors/)



Hear directly from thought leader on the latest developments at [indexologyblog.com/category/factors](https://indexologyblog.com/category/factors)

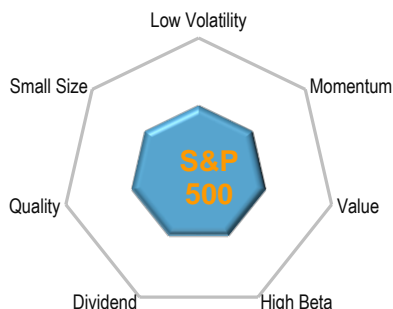


For more about S&P DJI's approach to factors, read "Factor Indices: A Simple Compendium" [spglobal.com/spdji/en/research/article/factor-indices-a-simple-compendium](https://spglobal.com/spdji/en/research/article/factor-indices-a-simple-compendium)

## KEY TO FACTOR SCORINGS FOR INDICES

### Factor Definitions

Each constituent of the S&P 500 index is provided with a factor "score" for each of Beta, Volatility, Momentum, Dividend, Size, Value and Quality.



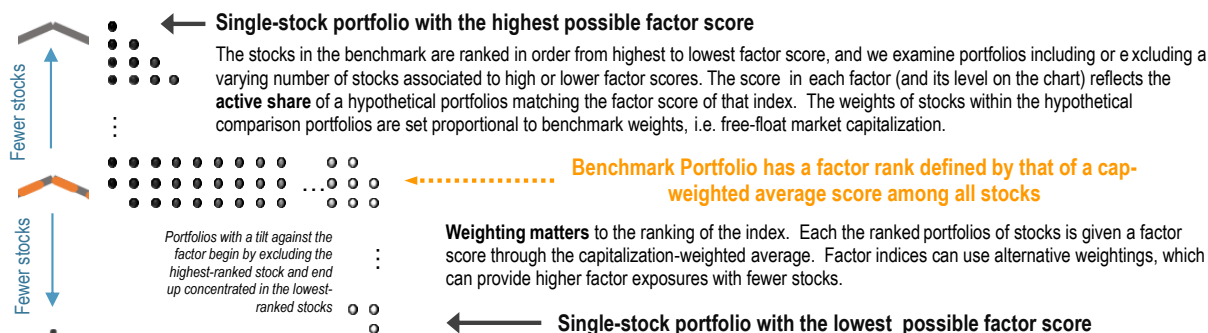
Factor	Measurement at single-stock level
<b>Volatility</b>	Trailing 12-month daily volatility.
<b>Momentum</b>	Twelve-month total return change as of one month ago ("13 minus 1 momentum"), divided by the daily volatility during the twelve-month period that ended one month prior. For more details, see the <a href="#">S&amp;P Momentum</a> methodology.
<b>Value</b>	The average of (normalized) earnings to price ratio, book to price ratio and sales to price ratio. For more details, see the <a href="#">S&amp;P Value</a> methodology.
<b>Beta</b>	Trailing 1 year beta of daily returns to the benchmark's returns.
<b>Dividend</b>	Trailing 12-month dividend.
<b>Quality</b>	The average of the (normalized) return on equity, the negative of the accruals ratio and the negative of the financial leverage ratio. For more details, see the <a href="#">S&amp;P Quality</a> methodology. Average and standard deviations for each metric follow below.
<b>Size</b>	Free-float market capitalization.

### Index Factor Ranking and Factor Diagram Scaling

#### Index Scores

Each index is provided score in each factor from -100% to +100% based on how much of the total capitalization of the benchmark must be excluded in order to provide a portfolio of stocks with similar exposure to that factor. This is done by examining a ranked series of hypothetical cap-weighted portfolios, including or excluding an increasing number of the stocks with the highest or lowest scores. An illustration of the process is below, further details may be found at this [link](#).

#### Factor Diagram Axis



### Notes On Additional Index Statistics

Statistic	Notes
Active Share (Stock)	Ranging from 0 to 100%, "active share" is a measure of how much a portfolio's composition differs from that of its benchmark, and provides the amount of trading theoretically required to switch from a position in one to a position in the other. The Active Share (Stock) for each index is calculated as the absolute sum of difference between S&P 500 stock weights and Index stock weights, divided by two.
Active Share (Sector)	The Active Share (Sector) is the absolute sum of difference between S&P 500 sector weights and Index sector weights, divided by two.
Concentration (HH Index)	The Herfindahl-Hirschman ("HH") concentration measure is equal to the index constituent's percentage weights, squared. For example, the HH measure of a single-stock portfolio is 10,000 (the maximum possible). The HH measure of a 100-stock, equally weighted index is 100.
Correlation (Stock)	Calculated as the weighted-average 1Yr trailing daily variance of current index constituents, divided by the 1Yr trailing daily Index variance. The value approximates an average stock-to-stock correlation of index constituents, weighted proportionally to both constituent weight and constituent volatility.

### Benchmark Statistics for Value, Quality and Momentum (normalization variables)

	VALUE			QUALITY		MOMENTUM		
	Earnings to Price	Book to Price	Sales to Price	Accrual Ratio	Return on Equity	Leverage Ratio	13M - 1M Return	Daily Price Volatility
S&P 500 index-weighted average	0.035	0.191	0.324	10.67%	37.63%	1.26	31.25%	1.66%
S&P 500 index-weighted standard deviation	0.023	0.217	0.427	15.46%	32.07%	1.09	38.12%	0.62%



## GENERAL DISCLAIMER

© 2024 S&P Dow Jones Indices. All rights reserved. S&P, S&P 500, SPX, SPY, The 500, US500, US 30, S&P 100, S&P COMPOSITE 150 0, S&P 400, S&P MIDCAP 400, S&P 600, S&P SMALLCAP 600, S&P GIVI, GLOBAL TITANS, DIVIDEND ARISTOCRATS, Select Sector, S&P MAESTRO, S&P PRISM, S&P STRIDE, GICS, SPIVA, SPDR, INDEXOLOGY, iTraxx, iBoxx, ABX, ADBI, CDX, CMBX, LCDX, MBX, MCDX, PRIMEX, TABX, HPMI, IRXX, I-SYND, SOVX, CRITS, CRITR are registered trademarks of S&P Global, Inc. ("S&P Global") or its affiliates. DOW JONES, DJIA, THE DOW and DOW JONES INDUSTRIAL AVERAGE are trademarks of Dow Jones Trademark Holdings LLC ("Dow Jones"). These trademarks together with others have been licensed to S&P Dow Jones Indices LLC. Redistribution or reproduction in whole or in part are prohibited without written permission of S&P Dow Jones Indices LLC. This document does not constitute an offer of services in jurisdictions where S&P Dow Jones Indices LLC, S&P Global, Dow Jones or their respective affiliates (collectively "S&P Dow Jones Indices") do not have the necessary licenses. Except for certain custom index calculation services, all information provided by S&P Dow Jones Indices is impersonal and not tailored to the needs of any person, entity or group of persons. S&P Dow Jones Indices receives compensation in connection with licensing its indices to third parties and providing custom calculation services. Past performance of an index is not an indication or guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index may be available through investable instruments based on that index. S&P Dow Jones Indices does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P Dow Jones Indices makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. S&P Dow Jones Indices is not an investment advisor, and S&P Dow Jones Indices makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. S&P Dow Jones Indices is not an investment adviser, commodity trading advisor, commodity pool operator, broker dealer, fiduciary, promoter" (as defined in the Investment Company Act of 1940, as amended), "expert" as enumerated within 15 U.S.C. § 77k(a) or tax advisor. Inclusion of a security, commodity, crypto currency or other asset within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, commodity, crypto currency or other asset, nor is it considered to be investment advice or commodity trading advice. Closing prices for S&P Dow Jones Indices' US benchmark indices are calculated by S&P Dow Jones Indices based on the closing price of the individual constituents of the index as set by their primary exchange. Closing prices are received by S&P Dow Jones Indices from one of its third party vendors and verified by comparing them with prices from an alternative vendor. The vendors receive the closing price from the primary exchanges. Real-time intraday prices are calculated similarly without a second verification. These materials have been prepared solely for informational purposes based upon information generally available to the public and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof ("Content") may be modified, reverse-engineered, reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of S&P Dow Jones Indices. The Content shall not be used for any unlawful or unauthorized purposes. S&P Dow Jones Indices and its third-party data providers and licensors (collectively "S&P Dow Jones Indices Parties") do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN "AS IS" BASIS. S&P DOW JONES INDICES PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Dow Jones Indices Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

S&P Global keeps certain activities of its various divisions and business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions and business units of S&P Global may have information that is not available to other business units. S&P Global has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate or otherwise address.

## Performance Disclosure

The S&P 500 Buyback Index was launched November 29, 2012. The S&P 500 Enhanced Value Index was launched April 27, 2015. The S&P 500 Revenue-Weighted was launched on Dec 30, 2005. The S&P 500 Pure Value was launched December 16, 2005. The S&P 500 Quality Index was launched July 8, 2014. The S&P 500 Pure Growth was launched December 16, 2005. The S&P 500 Momentum was launched November 18, 2014. The S&P 500 High Beta Index was launched April 4, 2011. The S&P 500 Equal Weight Index was launched January 8, 2003. The S&P 500 Low Volatility High Dividend Index was launched September 17, 2012. The S&P 500 Dividend Aristocrats was launched May 2, 2005. The S&P 500 High Dividend Index was launched September 21, 2015. The S&P 500 Minimum Volatility Index was launched November 9, 2012. The S&P 500 Low Volatility Index was launched April 4, 2011. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance, and is based on the index methodology in effect on the index launch date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. In addition, forks have not been factored into the back-test data with respect to the S&P Cryptocurrency Indices. For the S&P Cryptocurrency Top 5 & 10 Equal Weight Indices, the custody element of the methodology was not considered; the back-test history is based on the index constituents that meet the custody element as of the Launch Date. Complete index methodology details are available at [www.spglobal.com/spdji](http://www.spglobal.com/spdji). Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results.

Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations. Back-tested performance is for use with institutions only; not for use with retail investors.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the index is set to a fixed value for calculation purposes. The Launch Date designates the date when the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its data feed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

Typically, when S&P DJI creates back-tested index data, S&P DJI uses actual historical constituent-level data (e.g., historical price, market capitalization, and corporate action data) in its calculations. As ESG investing is still in early stages of development, certain datapoints used to calculate S&P DJI's ESG indices may not be available for the entire desired period of back-tested history. The same data availability issue could be true for other indices as well. In cases when actual data is not available for all relevant historical periods, S&P DJI may employ a process of using "Backward Data Assumption" (or pulling back) of ESG data for the calculation of back-tested historical performance. "Backward Data Assumption" is a process that applies the earliest actual live data point available for an index constituent company to all prior historical instances in the index performance. For example, Backward Data Assumption inherently assumes that companies currently not involved in a specific business activity (also known as "product involvement") were never involved historically and similarly also assumes that companies currently involved in a specific business activity were involved historically too. The Backward Data Assumption allows the hypothetical back-test to be extended over more historical years than would be feasible using only actual data. For more information on "Backward Data Assumption" please refer to the [FAQ](#). The methodology and factsheets of any index that employs backward assumption in the back-tested history will explicitly state so. The methodology will include an Appendix with a table setting forth the specific data points and relevant time period for which backward projected data was used.

Index returns shown do not represent the results of actual trading of investable assets/securities. S&P Dow Jones Indices maintains the index and calculates the index levels and performance shown or discussed but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US \$100,000 investment for a 12-month period (or US \$10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US \$1,650), the net return would be 8.35% (or US \$8,350) for the year. Over a three-year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US \$5,375, and a cumulative net return of 27.2% (or US \$27,200).