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Research

Charting New Frontiers: The S&P 500® ESG Index's Outperformance of the S&P 500

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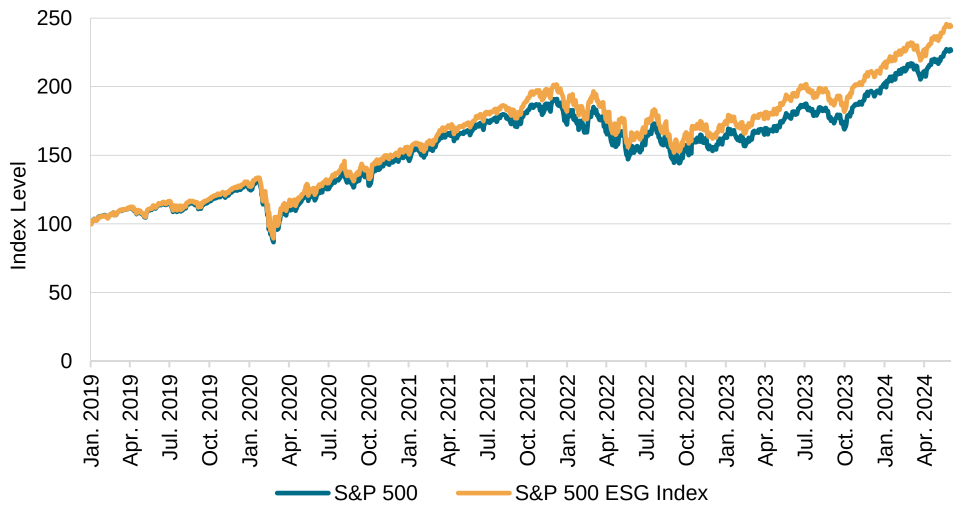
Introduction

The investment landscape has witnessed a significant shift toward sustainability in recent years, with growing emphasis on ESG considerations without sacrificing performance. In this environment, the S&P 500 ESG Index has emerged as a remarkable benchmark, improving ESG scores while also **performing similarly to or even better than the S&P 500 since its launch**, more than five years ago (see Exhibit 1).

Exhibit 1: Performance of the S&P 500 ESG Index and the S&P 500



Source: S&P Dow Jones Indices LLC. Data as of June 28, 2024. Index performance based on total return in USD. Indices were rebased to 100 on Jan. 28, 2019. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

In this reflective analysis, we embark on a journey to dissect the underpinnings of performance for the S&P 500 ESG Index, demonstrating that its success is not solely attributable to sector selection, but is also driven by factors such as selection among higher and lower ESG-scoring constituents, ESG momentum, as well as the Social pillar within ESG.

Exploration beyond Sector Weights

Launched on Jan. 28, 2019, the S&P 500 ESG Index measures the performance of securities that met certain ESG criteria, while maintaining similar overall industry group weights as the S&P 500, using S&P Global ESG Scores as the defining constituent selection characteristic.[1]

Exhibit 2 details the long-term performance and tracking error of the S&P 500 ESG Index relative to the S&P 500.

Exhibit 2: Annualized Performance and Tracking Error of the S&P 500 ESG Index versus the S&P 500

Metric	Full Period	1-Year	3-Year	5-Year
Total Return (%)	16.62	25.09	11.52	16.67
Excess Total Return (%)	1.62	0.53	1.50	1.63
Tracking Error (%)	1.33	1.37	1.39	1.35

Source: S&P Dow Jones Indices LLC. Data from Jan. 28, 2019, to June 28, 2024. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

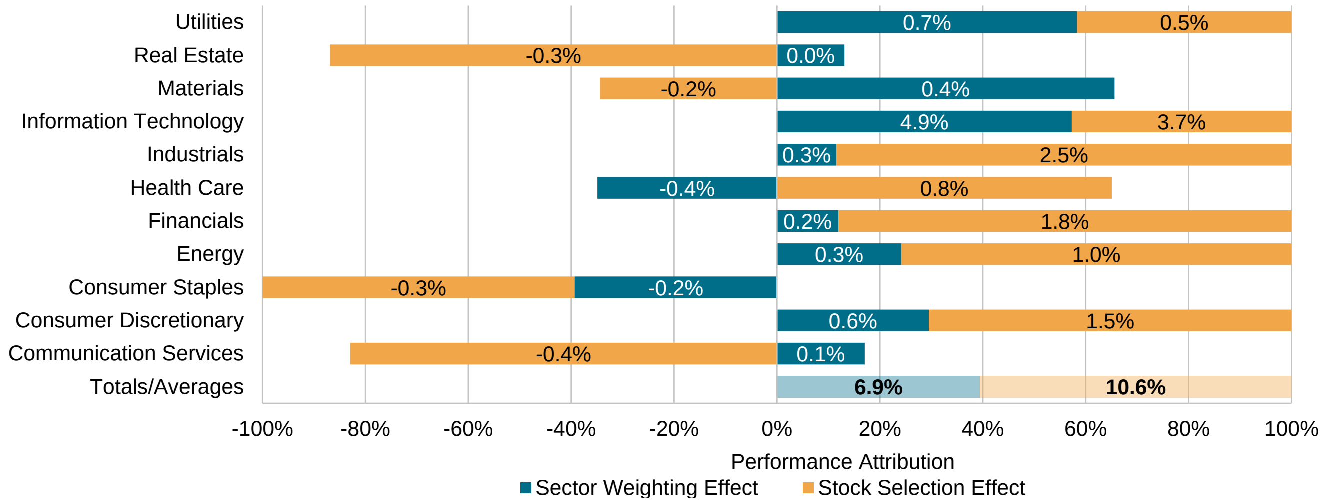
This live performance data covers an extraordinary period of contrasting market regimes, which on an almost annual basis over the five years since the index's launch alternated between bull and bear markets. The S&P 500 ESG Index outperformed the S&P 500 over 1, 3 and 5 years while maintaining a tracking error of 1.33%, in annualized terms, since its inception. What intricate tapestry of factors contributed to this performance?

One common critique of sustainability indices is that their tendency to underweight or overweight certain sectors potentially skews performance outcomes. However, a closer examination of the S&P 500 ESG Index reveals that its outperformance has been driven by stock selection rather than sector weighting. This is illustrated in Exhibit 3 using a Brinson[2] attribution analysis to measure the contribution of sector weighting and stock selection effects to the S&P 500 ESG Index's excess return relative to the S&P 500. To emphasize the relative impact of sector weighting and stock selection effects, Exhibit 3 shows the proportion of the total impact (so that their absolute values sum to 100%); actual return impact is shown in the labels.

[1] For a thorough overview of the S&P 500 ESG Index's key characteristics, see Sanchez, Maria, and Rowton, Stephanie, "The S&P 500 ESG Index: 5 Years of Defining Core through an ESG Lens," S&P Dow Jones Indices LLC, Aug. 7, 2024.

[2] For more information on this widely used performance attribution model, see Brinson, Gary P., Hood, L. Randolph, Beebower, Gilbert L., "Determinants of Portfolio Performance," Financial Analysts Journal, July-August, 1986.

Exhibit 3: Performance Attribution – Sector Weighting and Stock Selection Effects



Source: S&P Dow Jones Indices LLC. Data from Jan. 28, 2019, to June 28, 2024. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Since its inception, the S&P 500 ESG Index has posted a cumulative outperformance of 17.5% against the S&P 500. Nearly 61% of this outperformance was driven by the stock selection effect. Of the 11 sectors, the sector weighting effect exceeded the stock selection effect in just 3: Utilities, Materials and Information Technology. This finding is in line with the S&P 500 ESG Index's methodology,[3] as it targets 75% of the float market cap of each industry group in the S&P 500. Exhibit 4 summarizes the average historical sector weights for the S&P 500 ESG Index and their differences from the S&P 500.

Exhibit 4: S&P 500 ESG Index and S&P 500 Average Historical Sector Weights

Sector	Average Historical Weights (%)			
	S&P 500 ESG Index	S&P 500	Difference	Absolute Difference
Totals	**100.0**	**100.0**	**0.00**	**7.79**
Communication Services	9.6	9.8	-0.14	0.14
Consumer Discretionary	11.1	10.6	0.49	0.49
Consumer Staples	6.9	7.0	-0.13	0.13
Energy	3.9	3.8	0.06	0.06
Financials	13.6	14.4	-0.78	0.78
Health Care	13.9	13.8	0.11	0.11
Industrials	7.0	8.8	-1.79	1.79
Information Technology	26.9	23.7	3.23	3.23
Materials	2.3	2.6	-0.26	0.26
Real Estate	2.7	2.7	-0.01	0.01
Utilities	2.1	2.9	-0.77	0.77

Source: S&P Dow Jones Indices LLC. Data from Jan. 28, 2019, to June 28, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

[3] See the S&P ESG Indices Methodology.

As illustrated in Exhibit 4, the sector weights of the S&P 500 ESG Index have historically been comparable to those of the S&P 500. The largest differences observed were for Information Technology (3.23% overweight) and for Industrials (1.79% underweight).

ESG Attributes Driving Performance

Our analysis shows that the historical outperformance of the S&P 500 ESG Index over its benchmark transcends typical sector-based explanations. This outperformance could also be attributed to the selection of higher and lower ESG-scoring constituents.[4] To measure the importance of these attributes in generating the S&P 500 ESG Index's excess return, we created hypothetical ESG quintile compositions, by count, and we reconstituted them annually by ranking the S&P 500's constituents based on their ESG scores and assigning them to one of the five compositions, from highest to lowest ESG-scoring. The hypothetical market-cap-weighted performance of these compositions was then calculated and used to create a Brinson-like ESG attribution analysis, teasing out the importance of ESG score exposures in the performance of the S&P 500 ESG Index.

Exhibit 5 summarizes the results of this analysis, including the average weights of the S&P 500 ESG Index and the S&P 500 in each ESG quintile (from high to low ESG scoring), the corresponding quintile composition and index returns, as well as a summary of the corresponding weighting and selection effects over the full period.[5]

Exhibit 5: ESG Quintile Attribution

Quintile	S&P 500 ESG Index			S&P 500			Attribution		
	Average Weight (%)	Return (%)	ESG Score	Average Weight (%)	Return (%)	ESG Score	Weighting Effect (%)	Selection Effect (%)	Total Effect (%)
Totals/Averages	**100**	**143.90**	**52.6**	**100**	**126.36**	**48.91**	**3.76**	**13.77**	**17.53**
Quintile 1	23.08	-	-	19.17	111.14	72.24	-0.40	2.36	1.96
Quintile 2	24.02	-	-	20.02	156.04	57.44	1.45	3.51	4.96
Quintile 3	21.26	-	-	18.16	108.86	47.23	0.15	0.99	1.14
Quintile 4	20.26	-	-	21.39	118.61	41.22	1.22	5.64	6.86
Quintile 5	11.37	-	-	21.13	118.66	28.54	1.25	1.37	2.62

ESG quintiles reflect hypothetical historical performance are dividend from 1-5; with 1 being the quintile with the highest ESG scores and 5 being the quintile with the lowest ESG scores.
Source: S&P Dow Jones Indices LLC, S&P Global Sustainable1. Analysis carried out using S&P Capital IQ Pro. Data from Jan. 28, 2019, to June 28, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

The total effect from overweighting and underweighting, across and within the ESG quintiles, was positive in every quintile. Most strikingly, overweighting the second-highest ESG-scoring

[4] Here and throughout, we use the most recent values for current and historical ESG scores as provided by S&P Global Sustainable1.

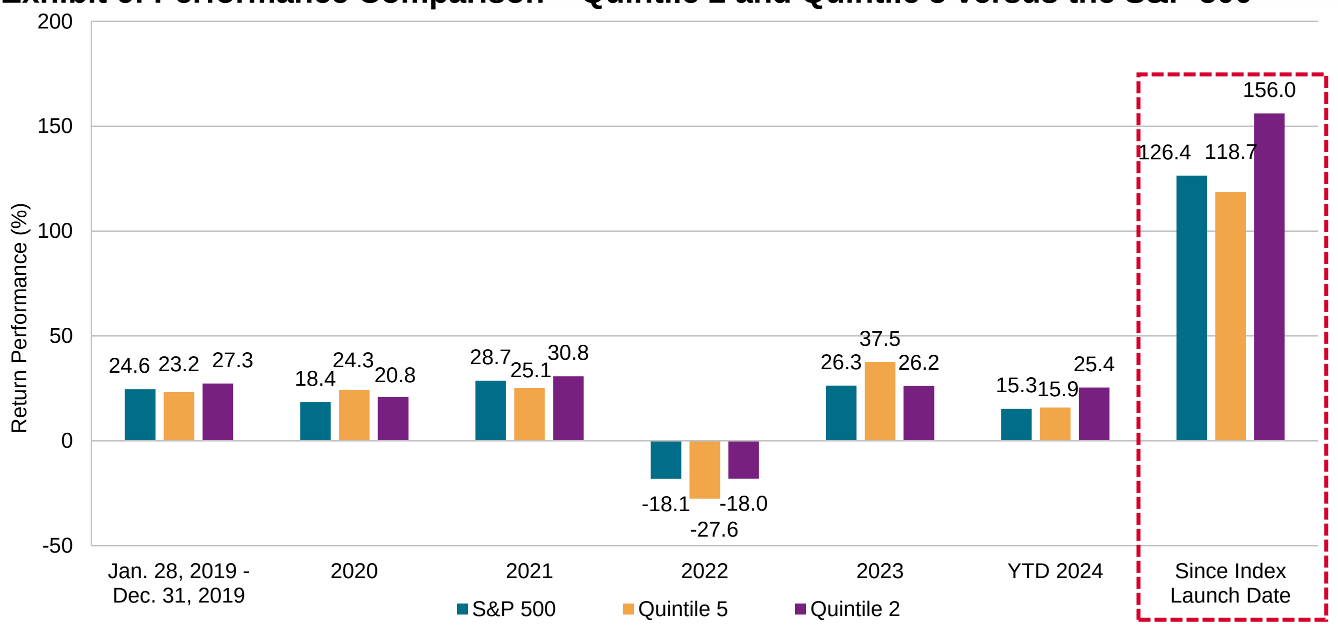
[5] Analysis carried out using S&P Capital IQ Pro.

constituents—i.e., Quintile 2—contributed the most to the S&P 500 ESG Index's outperformance in terms of the weighting effect. This quintile outperformed the S&P 500 by 29.7%, and the S&P 500 ESG Index overweighted this quintile by an average of 4%, generating 1.45% in excess return. Combined with the excess return of 3.51% generated by the selection effect, the total effect generated was 4.96% in excess return for the S&P 500 ESG Index.

Another key driver of the S&P 500 ESG Index's outperformance was underweighting the lowest ESG-scoring constituents. Quintile 5, which had the lowest ESG scores, underperformed the S&P 500 by 7.70%. The S&P 500 ESG Index underweighted this quintile by an average of 9.76%, which generated 1.25% in excess return from the weighting effect. Including the excess return of 1.37% generated by the selection effect, the total effect generated was 2.62% in excess return for the S&P 500 ESG Index.

Exhibit 6 compares the performance of Quintile 2 and Quintile 5 to the S&P 500 in each calendar year since the launch of the S&P 500 ESG Index. Quintile 2 outperformed the S&P 500 in four of the five calendar years analyzed. Quintile 5 underperformed the S&P 500 in three of the five calendar years analyzed. This shows that **the S&P 500 ESG Index regularly benefited from seeking the second-best-scoring constituents and avoiding the worst-scoring ones.**

Exhibit 6: Performance Comparison – Quintile 2 and Quintile 5 versus the S&P 500



ESG quintiles reflect hypothetical historical performance are dividend from 1-5; with 1 being the quintile with the highest ESG scores and 5 being the quintile with the lowest ESG scores.
Source: S&P Dow Jones Indices LLC, S&P Global Sustainable1. Analysis carried out using S&P Capital IQ Pro. Data from Jan. 28, 2019, to June 28, 2024. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

ESG Momentum and Its Impact

Moving beyond static ESG scores, we explore the concept of ESG momentum—measured at the company level simply as the year-over-year absolute change in the ESG score—and its impact on the performance of the S&P 500 ESG Index. To investigate this, similar to our analysis using ESG score quintiles, we created hypothetical ESG momentum quintile compositions by ranking the S&P 500's constituents by their ESG momentum score and assigning each of them to one of the five compositions, from the highest to the lowest ESG momentum-scoring. The hypothetical market-cap-weighted performance of these quintile compositions was then calculated and used to create an ESG momentum attribution analysis, underscoring the importance of ESG momentum exposure in the performance of the S&P 500 ESG Index.

Exhibit 7 summarizes the results of this analysis, including the average weights of the S&P 500 ESG Index and the S&P 500 in each ESG momentum quintile (from high to low scoring), the corresponding quintile composition and index returns, as well as a summary of the corresponding weighting and selection effects over the full period.[6]

Exhibit 7: ESG Momentum Quintile Attribution

Quintile	S&P 500 ESG Index				S&P 500				Attribution		
	Average Weight (%)	Return (%)	ESG Momentum	ESG Score	Average Weight (%)	Return (%)	ESG Momentum	ESG Score	Weighting Effect (%)	Selection Effect (%)	Total Effect (%)
Totals/ Averages	**100**	**143.90**	**1.07**	**52.6**	**100**	**126.36**	**-0.07**	**48.91**	**2.10**	**15.43**	**17.53**
Quintile 1	20.25	-	-	-	21.68	91.48	3.25	48.28	0.47	6.95	7.42
Quintile 2	18.94	-	-	-	20.15	102.86	0.86	47.38	0.14	0.20	0.34
Quintile 3	21.99	-	-	-	20.15	201.50	-0.81	49.57	1.98	7.02	9.00
Quintile 4	18.54	-	-	-	19.61	141.95	-1.43	51.84	-0.24	2.48	2.24
Quintile 5	20.28	-	-	-	18.41	88.08	-2.73	47.10	-0.35	-1.14	-1.49

ESG quintiles reflect hypothetical historical performance are dividend from 1-5; with 1 being the quintile with the highest ESG momentum scores and 5 being the quintile with the lowest ESG momentum scores.
Source: S&P Dow Jones Indices LLC, S&P Global Sustainable1. Analysis carried out using S&P Capital IQ Pro. Data from Jan. 28, 2019, to June 28, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

On average, the ESG momentum scores for Quintile 1 and Quintile 2 were positive, whereas the remaining quintiles had negative ESG momentum scores, which effectively indicates a year-over-year decrease in the ESG scores of the constituents in these hypothetical compositions. A declining ESG momentum score does not necessarily imply that a company's sustainability practices have worsened. The S&P Global ESG Scores are powered by the S&P Global Corporate Sustainability Assessment (CSA), which is an annual evaluation of a

[6] Analysis carried out using S&P Capital IQ Pro.

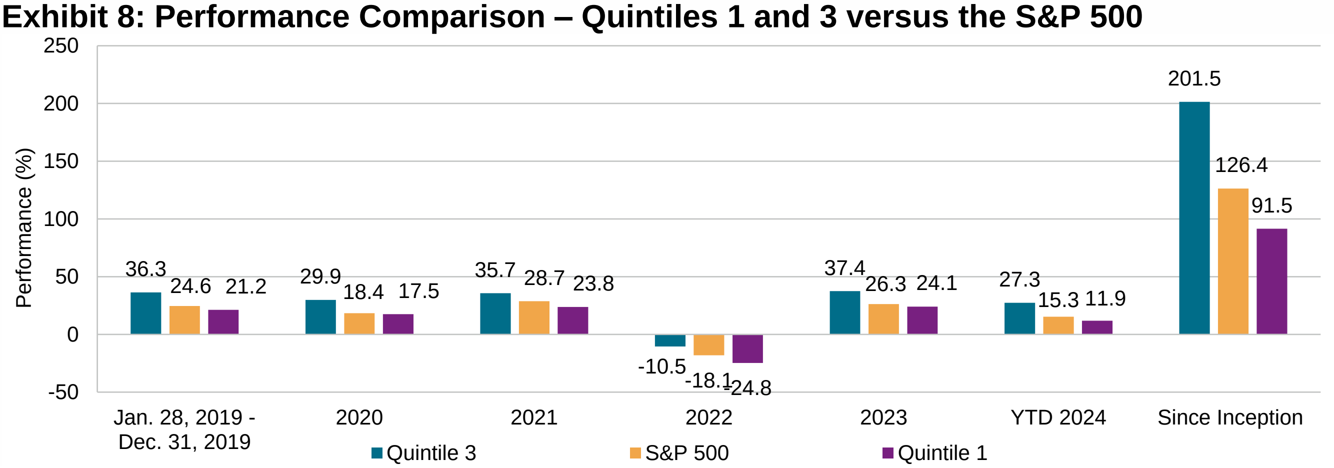
company's sustainability practices, using industry-specific questionnaires, including financially relevant sustainability criteria. If the CSA criteria become more stringent, a company's ESG score might decline on a year-over-year basis, even though its sustainability practices did not worsen, which can result in a negative ESG momentum score.

Exhibit 7 shows that the ESG scores of all the ESG momentum quintiles were broadly similar to those of the S&P 500. Interestingly, the constituents with the highest ESG momentum scores, represented by Quintile 1, had just a slightly lower ESG score than the S&P 500, 48.28 versus 48.91, respectively.

The S&P 500 ESG Index benefitted the most from an overweight in Quintile 3 and an underweight in Quintile 1. The former achieved a cumulative outperformance of 75.14% relative to the S&P 500, and the latter underperformed by 34.90%. Quintile 3 had a similar ESG momentum score to the S&P 500, but a slightly higher ESG score. On average, the S&P 500 ESG Index overweighted this quintile by 1.84%, generating 1.98% in excess return from the weighting effect. Combined with a selection effect of 7.02%, it resulted in a 9.00% excess total return for the S&P 500 ESG Index for this quintile. Quintile 1 was underweighted by 1.43% on average by the S&P 500 ESG Index, resulting in a weighting effect of 0.47%. Taken together with the selection effect, the total contribution was 7.42% in excess return for the S&P 500 ESG Index for this quintile.

Drilling down, Exhibit 8 compares the performance of Quintiles 1 and 3 to the S&P 500 in each calendar year since the launch of the S&P 500 ESG Index. Quintile 1 outperformed and Quintile 3 underperformed the S&P 500, respectively, in each of the calendar years represented. This finding could indicate that **the S&P 500 ESG Index likely benefitted from seeking out the medium ESG momentum-scoring constituents—i.e., Quintile 3—and avoiding the worst ESG momentum-scoring ones.**

Exhibit 8: Performance Comparison – Quintiles 1 and 3 versus the S&P 500



ESG quintiles reflect hypothetical historical performance are dividend from 1-5; with 1 being the quintile with the highest ESG momentum scores and 5 being the quintile with the lowest ESG momentum scores.
Source: S&P Dow Jones Indices LLC, S&P Global Sustainable1. Analysis carried out using S&P Capital IQ Pro. Data from Jan. 28, 2019, to June 28, 2024. Past performance is no guarantee of future results. Chart is provided for illustrative purposes. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

The Social Criteria and Its Influence

The Social pillar within the ESG framework is often perceived as more nebulous than the Environmental and Governance pillars. The Social pillar refers to how a company, and its products, affect and are affected by the world around it. Society is multi-faceted, which makes this pillar harder to define than the others, and even more difficult to measure using scientific metrics such as tons of CO_2 emissions or percentage of board gender diversity.

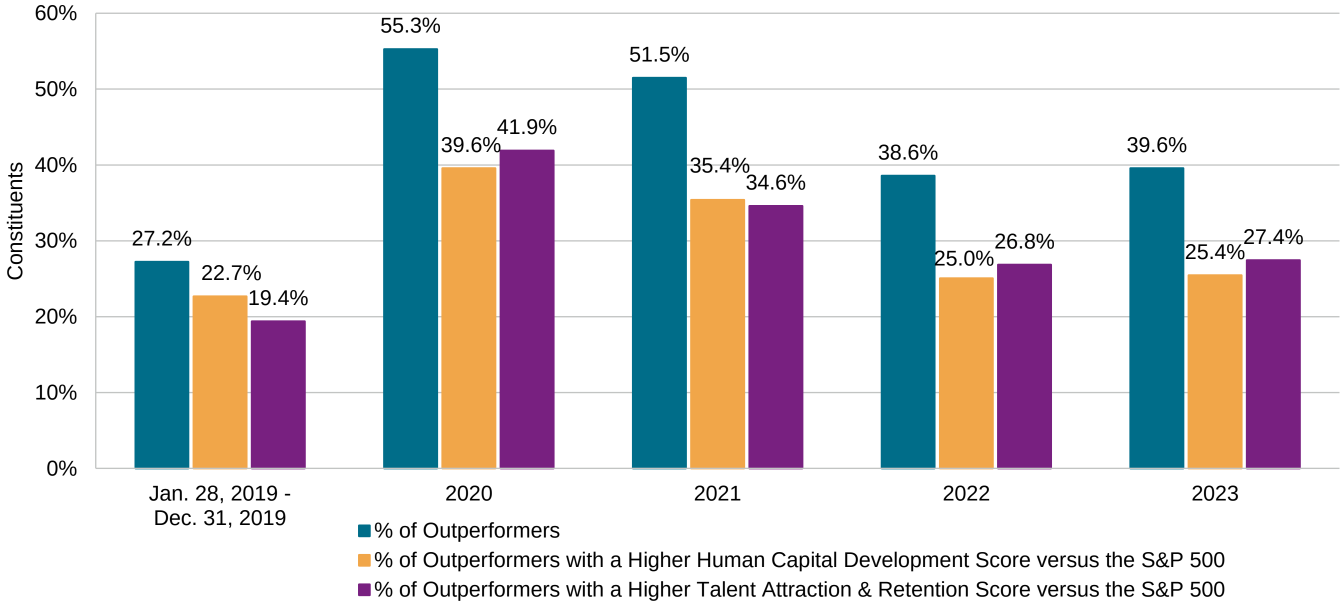
In this analysis, we investigate whether there is a relationship between the Social pillar and the S&P 500 ESG Index's historical outperformance versus its benchmark. Specifically, we focus on two criteria within the Social pillar: Human Capital Development, and Talent Attraction and Retention.[7] Human capital constitutes a crucial component of a company's intangible assets, and for numerous industries, the development of human capital represents one of the key financially significant factors for sustainability. Similarly, successful Talent Attraction & Retention is a powerful enabler for companies to maintain their competitive advantage and to execute their corporate strategies. These are the two criteria in the Social dimension[8] that most companies have a score for, due to their relevancy and financial materiality for a diverse group of industries.

To highlight the role of the Social dimension in generating performance, we present a different perspective. In particular, when it comes to the two Social criteria that have the broadest application across industries, it turns out that an unexpectedly high proportion of all the stocks that outperformed the S&P 500 over a range of periods were companies with higher Social criteria scores. In this analysis, we first calculated the percentage of constituents that outperformed the S&P 500 in each calendar year since the S&P 500 ESG Index's launch on Jan. 28, 2019. We then measured what percentage of these outperformers had higher Social criteria scores than the S&P 500 on average. The results of this analysis are summarized in Exhibit 9.

[7] For further information on these Social criteria, see the S&P Global ESG Scores methodology.

[8] For further information on the Social dimension in ESG scores, see CSA Handbook 2024, S&P Global Sustainable1.

Exhibit 9: Percentage of Outperforming S&P 500 Constituents

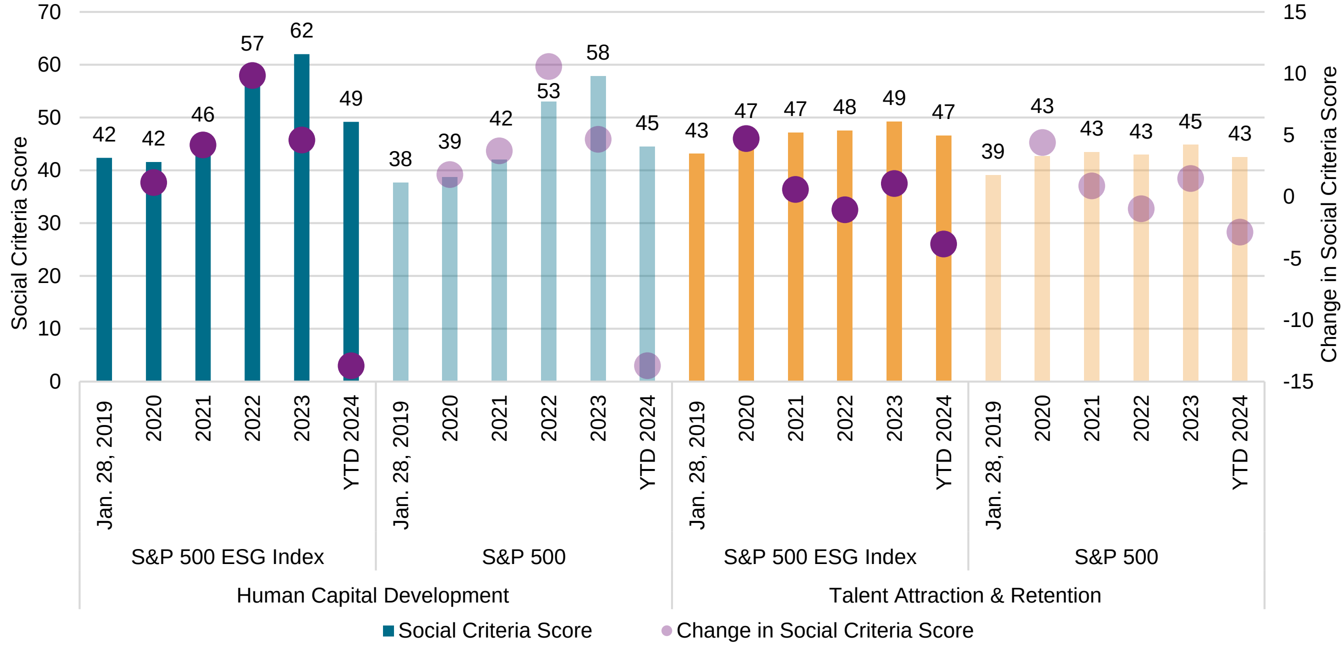


Source: S&P Dow Jones Indices LLC, S&P Global Sustainable1. Analysis carried out using S&P Capital IQ Pro. Data from Jan. 28, 2019, to June 28, 2024. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

In each calendar year since the S&P 500 ESG Index's launch, more than 60% and 65% of the outperforming constituents had higher Human Capital Development and Talent Attraction & Retention scores, respectively, than the S&P 500. The S&P 500 ESG Index consistently overweighted these constituents, in total by an average of 4.3% across the full period since launch. **This finding underscores the importance of the Social criteria in driving the S&P 500 ESG Index's outperformance.**

Unsurprisingly, overweighting the constituents with higher Social criteria scores affected the S&P 500 ESG Index's Human Capital Development and Talent Attraction & Retention scores relative to the S&P 500. Exhibit 10 illustrates the comparison of Social criteria scores for the S&P 500 ESG Index versus the S&P 500 and their corresponding changes in each calendar year since the launch of the S&P 500 ESG Index.

Exhibit 10: Comparison of Social Criteria Scores for the S&P 500 ESG Index versus the S&P 500



Source: S&P Dow Jones Indices LLC, S&P Global Sustainable1. Analysis carried out using S&P Capital IQ Pro. Data from Jan. 28, 2019, to June 28, 2024. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

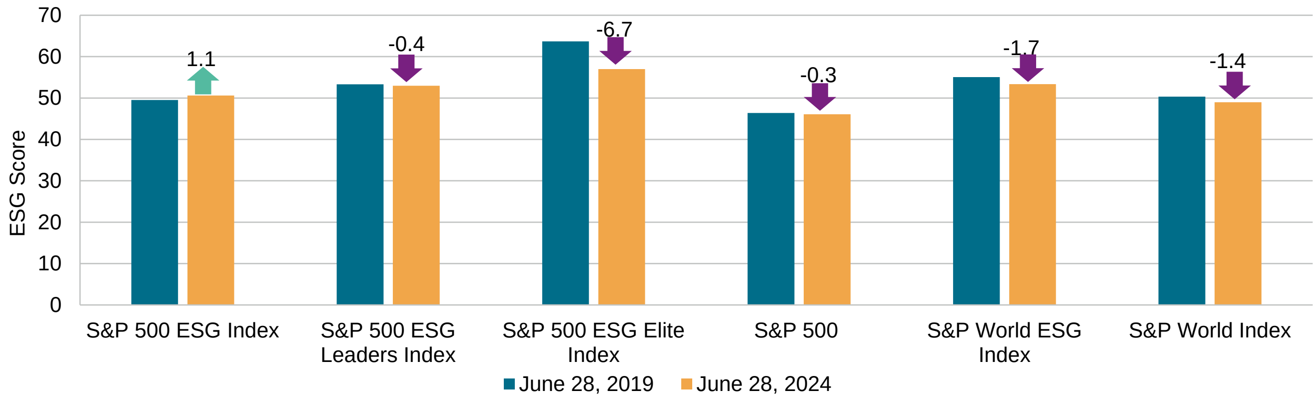
Since its launch, the S&P 500 ESG Index has consistently achieved higher scores for Human Capital Development and Talent Attraction & Retention criteria compared to the S&P 500, in line with overweighting the constituents that scored higher in these factors. However, year-over-year changes in Social criteria scores were quite similar for the S&P 500 ESG Index and the S&P 500, indicating that the higher-scoring constituents experienced similar magnitudes of change as their lower-scoring peers.

ESG Score Dynamics over Time

In the previous sections, we focused on performance metrics and their relationship with ESG scores, ESG momentum scores and Social criteria scores. We now turn our attention to investigating the dynamic nature of ESG scores on a yearly basis and to exploring the driving forces behind their fluctuations, as this can consequently affect performance.

Exhibit 11 compares the ESG scores for the S&P 500 ESG Index relative to the S&P 500, as well as for a set of headline indices selected from our S&P ESG Index Series relative to their benchmark indices, as a reference, across a five-year period ending June 28, 2024.

Exhibit 11: Changes in ESG Scores by S&P ESG Index

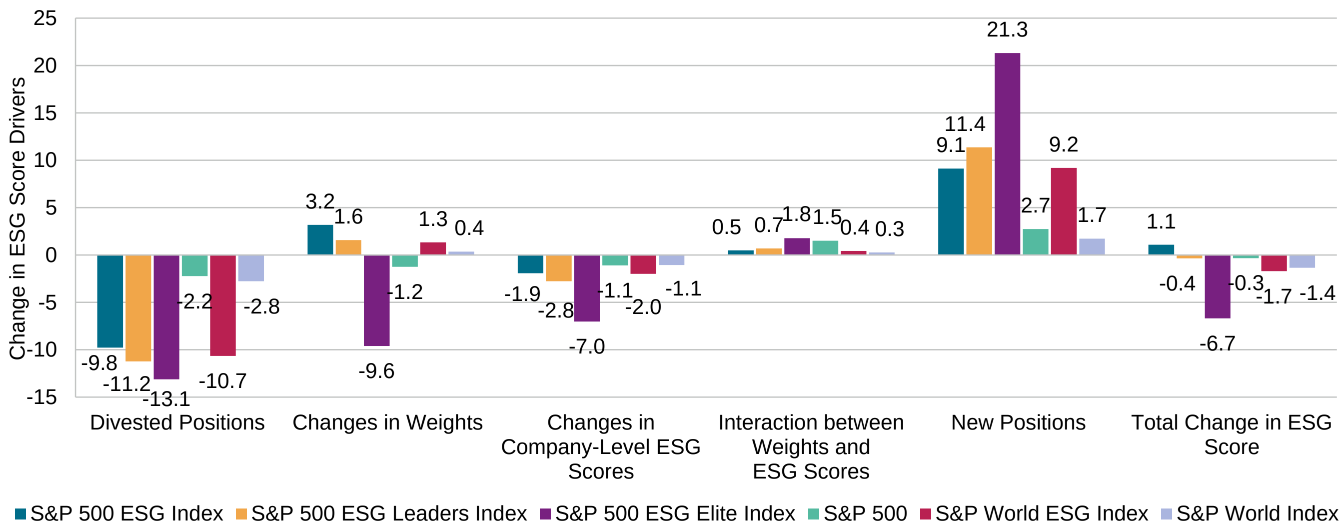


Source: S&P Dow Jones Indices LLC, S&P Global Sustainable1. Analysis carried out using S&P Capital IQ Pro. Data from June 28, 2019, to June 28, 2024. The S&P 500 ESG Elite Index was launched on Dec. 21, 2020. The S&P 500 ESG Leaders Index was launched on Feb. 7, 2022. All data prior to such date is back-tested hypothetical data. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Exhibit 11 shows that the headline S&P ESG Indices showed higher ESG scores than their benchmarks at the beginning of the period, June 28, 2019, and at the end of the period, June 28, 2024. During this period, however, with the sole exception of the S&P 500 ESG Index, the ESG score of the other three S&P ESG Indices declined more than their benchmarks. The S&P 500 ESG Index was the only index for which the ESG score increased.

Exhibit 12 takes a closer look and summarizes the key drivers behind the changes in ESG scores, on a cumulative basis, for this set of S&P ESG Indices, compared to their benchmarks.

Exhibit 12: ESG Score Attribution of the S&P ESG Indices and Their Benchmarks



Source: S&P Dow Jones Indices LLC, S&P Global Sustainable1. Analysis carried out using S&P Capital IQ Pro. The interaction between weights and ESG scores refers to the interaction between changes in weights and changes in company-level ESG scores. Data from June 28, 2019, to June 28, 2024. The S&P 500 ESG Elite Index was launched on Dec. 21, 2020. The S&P 500 ESG Leaders Index was launched on Feb. 7, 2022. All data prior to such date is back-tested hypothetical data. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

As shown in Exhibit 12, Changes in Company-Level ESG Scores and Divested Positions had negative effects on all the examined S&P ESG Indices and their benchmarks. Meanwhile, the effect of New Positions (i.e., index additions), and the interaction between Changes in Weights and Changes in Company-Level ESG Scores were positive for all the examined indices.

Understanding and monitoring the trajectory of ESG scores over time can provide valuable insights into how the constituents of the S&P 500 ESG Index can adapt to emerging sustainability trends, regulatory changes and stakeholder demands. It could also help the drivers behind the index's exceptional historical performance.

Conclusion

Since its inception more than five years ago, the S&P 500 ESG Index had a tracking error of 1.33% and outperformed the S&P 500 by 1.62% on an annualized excess total return basis. The results of our analysis show that this performance *did not* stem solely from sector bias, which is a common critique of sustainability indices.

The performance of the S&P 500 ESG Index was instead driven by an array of factors, such as seeking the best ESG-scoring constituents with medium ESG momentum scores, and selecting constituents with high Human Capital Development and Talent Attraction & Retention scores, while also avoiding the worst ESG-scoring constituents with high ESG momentum scores.

Our findings also shed a light on the dynamic nature of ESG scores and their underlying drivers, which in turn could help provide a nuanced overview of the forces propelling the S&P 500 ESG Index's historical outperformance over its benchmark.

Performance Disclosure/Back-Tested Data

The S&P 500 ESG Index was launched on Jan. 28, 2019. The S&P 500 ESG Elite Index was launched on Dec. 21, 2020. The S&P 500 ESG Leaders Index was launched on Feb. 7, 2022. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was 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. Complete index methodology details are available at www.spglobal.com/spdji. Past performance of the Index is not an indication of future results. 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.

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