Applying Sustainability to Sector Indices

Executive Summary

Sector-based index strategies are viewed by many investors as an effective way to express their views on macroeconomic, demographic and other trends while still achieving diversification. Meanwhile, investors are increasingly looking for ways to incorporate sustainability considerations and personal values into all aspects of investing, including index construction. Sector-based indices that factor in sustainability elements combine these two powerful trends and can help investors express their views on macroeconomic trends while applying a sustainability lens.

Sector indices need to account for the fact that sustainability elements don’t apply to each sector equally. The most prominent example of this is that climate-related financial risks affect energy companies quite differently than banking institutions or other service companies. This concept of materiality needs to be rigorously embedded throughout a sector index series.

In this paper, we explore why sector-based investing has become such a valuable tool for investors and how sustainability elements can be built into sector indices using consistent, materiality-based methodologies.
The Case for Sector Investing

Historically, a company’s sector has been shown to have a significant potential impact on the company’s stock performance, and the performance of specific sectors can vary dramatically, often reflecting broader economic conditions. Sector indices can give investors an efficient way to express views about how various segments of the economy will perform while maintaining diversification within each sector and mitigating single-stock risk.

Achieving Diversified Exposure within Sectors

Companies in a sector tend to have similar exposure to external forces such as interest rates, inflation, gross domestic product growth, demographic trends, unemployment, technological developments, geopolitical risk and legal or regulatory changes. For example, Consumer Discretionary companies tend to be sensitive to the strength of the economy, as well as consumer spending, sentiment and debt levels.

At the same time, each company in a sector also has a degree of idiosyncratic risk because of its business strategy, brand awareness, management team, supply chain and other factors that make up a company’s unique competitive positioning. Going back to the Consumer Discretionary example, a company that generates most of its sales in the U.S. would be more sensitive to a U.S. recession than a company with a more geographically diverse customer base. Similarly, a company that sources most of its products from offshore manufacturers would have more exposure to potential trade disruptions than a company that manufactures its goods locally.

By aggregating the performance of a representative subset of companies in a sector, sector indices provide insight into the performance of that sector while significantly reducing idiosyncratic risk of any one company.

Because all stocks in a sector share some level of macroeconomic risks, some investors use sector indices to express their view on the economic cycle. A well-known example is the use of sector indices to position among cyclical and defensive sectors. Cyclical sectors, such as Energy, Materials, Industrials, Consumer Discretionary, Financials and Information Technology, tend to be more sensitive to broader economic trends. Defensive sectors, such as Consumer Staples, Health Care, Communication Services and Utilities, tend to be less sensitive to how the economy is performing.

Quantifying the Impact of Sectors

Historical data shows that a significant portion of a stock’s performance could be attributed to its sector. For the 10-year period ending in December 2022, the average correlation-squared of daily price movements between each stock in the S&P 500® and its respective sector index was around 0.46, compared with an average correlation-squared of 0.31 between each stock and the benchmark. In other words, a stock’s sector could be said to be responsible for about one-half of the variance in daily returns, while the overall market’s movements accounted for less, at roughly one-third.3

The impact of sectors on stock performance was on stark display in 2022. The year saw central banks in many developed countries begin aggressively raising interest rates to combat inflation, leading to growing concerns that this monetary tightening could lead to recession in these regions. Meanwhile, the Russia-Ukraine conflict and other geopolitical uncertainty shocked energy and commodities markets and global supply chains.

These macroeconomic and geopolitical forces affected specific sectors in dramatically different ways. As a result, the gap between the best-performing sector in the S&P 500 (Energy) and the worst-performing sector (Communication Services) in 2022 was 106%—the widest in more than 30 years.

Exhibit 1: 2022 Saw Record Dispersion between the Best- and Worst-Performing S&P 500 Sectors


3 Based on monthly correlation statistics sourced from S&P Dow Jones Indices LLC, as of December 2022. The square of the correlation statistic, or “coefficient of determination,” here provides the proportion of variation in one variable that may be explained by variation in another.
Bringing Sustainability to Sector Indices

Given the rising importance of sustainable investing, many investors are looking for ways to integrate environmental, social and governance (ESG) factors into their sector investing strategies. As a leader in sector indices and sustainability indices, S&P DJI has developed innovative indices that integrate these two important investment approaches.

Applying sustainability overlays to sector indices requires a consistent, transparent methodology. Our methodologies incorporate aggregated sustainability scores, account for financial materiality in each sector, and use advanced optimization techniques to create broad, diversified sector indices.

Exhibit 2: S&P Dow Jones Indices – A Leader in Sustainability

Since launching the Dow Jones Sustainability Index Series in 1999, S&P DJI has been steadily strengthening its sustainability offerings and capabilities. These efforts include integrating robust sustainability datasets (such as the S&P DJI ESG Scores and S&P Global Trucost Carbon dataset), business involvement screens and controversy monitoring screening, as well as the United Nations Global Compact (UNGC) screens.

Optimization Leads to Diversified Sector Indices with Enhanced Sustainability Profiles

Many S&P DJI sustainability indices aim to select and weight companies to collectively enhance the index’s sustainability profile. In addition to exclusion screens for controversial industries such as tobacco, thermal coal and weapons, the indices use robust ESG scores that are based on thousands of data points. Sustainability indices can also be designed to achieve more specific goals, such as integrating decarbonization rates.

When designing a sustainability sector index, the target might be to achieve one or more sustainability goals, while minimizing the deviation from the benchmark. Put simply, many investors don’t want to trade sustainability for a highly concentrated sector index. This may be

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4 S&P DJI ESG Indices may use S&P DJI ESG Scores within the index construction. These scores are based on the S&P Global Corporate Sustainability Assessment (CSA), which is a questionnaire-based analysis focused on the most financially material issues for each industry. For more information on the S&P DJI ESG Scores, please see the methodology.
a particular issue for a sector such as Energy, that is traditionally seen as less compatible with sustainable investing.

S&P DJI seeks to avoid concentration risk by using a constrained optimization technique when constructing sustainability indices. This process minimizes active share while controlling for the targeted sustainability exposures. As a result, the sector indices aim to achieve the sustainability objectives and avoid the risk of having an outsized weight in a handful of companies.

Exhibit 3: Sustainability Sector Indices Methodology

Source: S&P Dow Jones Indices LLC. Data as of February 2023. Chart is provided for illustrative purposes. Developed by S&P Dow Jones Indices and MSCI, the Global Industry Classification Standard (GICS) provides a consistent convention for dividing the economy and investable companies into 11 sectors. Each sector is then subdivided into 25 industry groups, 74 industries and 163 sub-industries.

Materiality: How Sustainability Factors Are Integrated for Specific Sectors

When constructing sustainable sector indices, the concept of materiality is critical because the importance of individual sustainability factors can vary significantly by sector. For example, high carbon emissions might pose a greater financial threat to an Energy company’s bottom line than to a Financials company if carbon prices were to rise in line with the Paris Agreement goals. Another example is the handling of users’ private and personal information, an issue of particular material importance for an Information Technology company, as well as the security of digital infrastructure.

A rigorous, sophisticated approach to materiality allows a sustainability overlay to better reflect the factors that affect the financial performance of companies in that sector. Materiality also
allows investors to identify the sustainability leaders and laggards in each sector by using scores that reflect this financial materiality lens in a meaningful way.

To illustrate how sustainability overlays can be adapted to each sector, it is helpful to examine the financial materiality matrix for four prominent sectors (see Exhibit 4).

**Exhibit 4: Material Sustainability Issues in Select Sectors**

<table>
<thead>
<tr>
<th>Energy</th>
<th>Financials</th>
<th>Health Care</th>
<th>Information Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Equipment &amp; Services</td>
<td>Banks</td>
<td>Health Care Providers &amp; Services</td>
<td>IT Services</td>
</tr>
</tbody>
</table>

- **Energy**
  - Supply Chain Management
  - Business Ethics
  - Climate Strategy
  - Operational Eco-Efficiency
  - Occupational Health & Safety
  - Labor Practice Indicators

- **Financials**
  - Sustainable Finance
  - Anti-Crime Policy & Measures
  - Decarbonization Strategy
  - Climate Strategy
  - Financial Inclusion
  - Talent Attraction & Retention

- **Health Care**
  - Innovation Management
  - Business Ethics
  - Climate Strategy
  - Environmental Policy & Management Systems
  - Access to Health Care
  - Occupational Health & Safety

- **Information Technology**
  - Information Security
  - Innovation Management
  - Environmental Reporting
  - Operational Eco-Efficiency
  - Customer Relationship Management
  - Privacy Protection

Source: S&P Dow Jones Indices LLC. Data as of February 2023. Chart is provided for illustrative purposes.

**The Case of Energy: Sustainability in a “Non-ESG” Sector**

The Energy sector has long been a stumbling block for sustainability-focused investors. Yet even within a sector that has had an unfriendly ESG reputation, there is potential to improve index-level sustainability scores and/or tilt toward companies with lower relative carbon intensity.

Rather than underweighting or excluding Energy, which tends to occur in some low carbon strategies, applying a decarbonization constraint within the sector allows for overweights to be awarded to energy companies with lower carbon intensity. This allows investors to maintain exposure to an important sector when integrating sustainability considerations into their strategies and mandates. Another benefit of this approach is that it increases transparency and incentivizes engagement with companies throughout the Energy sector, rather than simply excluding them.
Introducing the S&P Sustainability Sector Indices

The S&P Developed Ex-Korea LargeMidCap ESG Enhanced Sector Indices aim to measure the performance of equity securities from an underlying S&P Developed Ex-Korea LargeMidCap Sector Index, with index constituents selected and weighted to meaningfully enhance the ESG profiles and reduce the carbon footprint at the index level. The indices apply exclusions based on companies’ ESG characteristics, involvement in specific business activities, violation of UNGC Principles and involvement in relevant ESG controversies.

What Sets Them Apart

- The indices comprise the most ESG-focused companies on a global, developed basis, using the relevant sector constituents from the S&P Developed Ex-Korea LargeMidCap universe.
- S&P DJI ESG Scores derived from the market-leading S&P Global Corporate Sustainability Assessment (CSA) are embedded within the methodology.
- ESG exclusions are applied to remove controversial business activities, including companies involved in controversial weapons, military contracting, tobacco products, small arms, thermal coal and oil sands.
- The indices exclude UNGC violators and integrates ongoing ESG controversy monitoring via the S&P Global Media & Stakeholder Analysis (MSA) to ensure that any constituent that experiences a significant ESG incident between rebalances can quickly be removed from the index.
- The indices use the S&P Glassbox Optimizer, which seeks to minimize deviations from the underlying index while integrating multiple ESG objectives, such as a meaningful ESG profile improvement and a 30% decarbonization target.
- The indices embed diversification constraints to prevent concentration within the indices and adhere to UCITS 20/35 guidelines.
- The semiannual rebalance and quarterly constituent reviews help to ensure that the indices better reflect the constituents in the underlying index and do not hold companies that have breached exclusion rules.
Conclusion: Allocating Capital to Sustainable Companies Doesn’t Require Sacrificing Diversification

Considering the degree to which sector-based strategies allow investors to express their views related to macroeconomic cycles and other broad forces, it’s not surprising that these strategies have attracted significant interest. Although diversification is often considered paramount in sector investing, there’s no need for market participants to check their sustainability objectives at the door when it comes to exploring sectors.

By employing a transparent optimization technique and incorporating financial materiality in a sophisticated, rigorous methodology, sustainability overlays can be applied to all sector indices, including Energy. These indices can be effective tools for managing exposure to various economic forces and trends—while still achieving broad diversification within each sector and focusing on companies with strong sustainability credentials.
Performance Disclosure/Back-Tested Data

The S&P 500 Utilities, S&P 500 Energy, S&P 500 Consumer Discretionary, S&P 500 Consumer Staples, S&P 500 Financials, S&P 500 Materials, S&P 500 Communication Services, S&P 500 Information Technology, S&P 500 Health Care and S&P 500 Industrials were launched June 28, 1996. The S&P 500 Real Estate was launched Sept. 19, 2016. 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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