SUSTAINABILITY IN THE CAPITAL MARKETS AND SUSTAINABLE INDICES

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ABSTRACT: *The integration of sustainability principles into capital markets has gained increasing significance, driven by environmental, social, and governance (ESG) concerns. This paper examines the role of sustainable practices in capital markets, focusing on their potential to address ecological challenges, promote social equity, and enhance corporate governance. The research aims to evaluate how ESG criteria influence corporate financial performance, and market structures, with particular emphasis on sustainability indices. The study employs desk analysis of reports and a literature review to explore the evolution of ESG-focused investments, the challenges of quantifying and reporting sustainability, and the impact of ESG criteria on financial performance. Special attention is given to sustainable indices such as the S&P 500 ESG Index and the Dow Jones Sustainability World Index, comparing their methodologies and effectiveness in reflecting sustainable practices. Findings highlight the growing importance of ESG principles, which increasingly shape investment strategies and corporate policies.*

Keywords: S*ustainability, ESG principles, Capital markets, Sustainable indices, green economy*

JEL Classification: *G10, G11, Q01, Q56, M14*

1. INTRODUCTION

Over the past few decades, sustainability has become a pressing subject in virtually every sector of the global economy. This reflects a growing realization of how deeply economic

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activities affect our environment and society. The Sustainable Development Goals (SDGs), adopted by the United Nations in 2015, represent a global call to action to eradicate poverty, protect the planet, and ensure that all people enjoy peace and prosperity by 2030 (United Nations 2015). Among these goals, SDG 8, 9, and 12 are closely tied to fostering economic growth and sustainability, highlighting the delicate balance between economic development and environmental stewardship (Oprea & Duta 2024). Capital markets are closely linked to these SDGs as they immobilize investments that drive economic growth.

The capital markets, which serve as the backbone of international financial flow, find themselves at the forefront of both mounting challenges and emerging opportunities related to sustainability. The heightened importance of environmental, social, and governance (ESG) considerations has led to a rethinking of investment strategies, corporate governance frameworks, and the long-term goals of organizations (Comms, 2023). Stakeholders, ranging from individual investors to governments and large-scale institutional actors, increasingly recognize that sustainable economic activities can safeguard the planet while simultaneously generating long-term financial returns (Boitan, 2020).

The notion of integrating sustainability in capital markets is multifaceted. On one hand, ESG principles offer a tool to gauge the long-term viability and social responsibility of firms, an aspect that is very important for risk management in portfolios. On the other hand, sustainable investments also enhance firms' reputations, ensuring that companies remain socially conscious while meeting financial objectives (Arribas, 2020). Driven by a marked rise in investor's demand for ethically grounded investments, stock market indices dedicated solely to sustainable companies, referred to as “sustainable stock indices”, have become very popular. These indices, although they are still in relatively primitive stages, aim to measure and track the performance of companies that demonstrate robust ESG credentials (SSE 2023).

However, integrating sustainability into capital markets is not without obstacles. Overarching issues such as the absence of standardized ESG reporting, a propensity for “greenwashing,” and the lack of universally accepted ESG ratings, have led some sceptics to question the authenticity of sustainable investment products. As with any paradigm shift, there is an evolutionary process at play in which methodological frameworks, regulatory environments, and investor awareness must converge to create a smooth transition.

Against this backdrop, the paper explores how ESG integration influences companies' financial performance, investor behaviour, and capital market structure. Specifically, it delves into the progression of sustainable investments, their current performance indicators, and the growing prominence of sustainable stock indices. Throughout, the analysis highlights the ongoing challenges as well as the attendant opportunities to shape more equitable and resilient capital markets. The paper concludes by emphasizing why deeper alignment between sustainability and financial markets is imperative and beneficial for all stakeholders in an era of intensifying global environmental and social pressures.

2. LITERATURE REVIEW

The study of sustainability in the capital markets spans various theoretical perspectives and methodological approaches. Despite the diversity in empirical findings, a unifying theme in much of the academic literature is the growing significance attributed to ESG factors in explaining, and often enhancing, corporate financial performance.

The research of Miralles-Quiros (2021) underscores the accelerating pace at which firms produce and disclose ESG reports. A central question posed in this paper is whether these sustainability reports are credible, especially since firms increasingly resort to external auditors to mitigate potential biases. According to the study, ESG reporting can enhance a firm's stock price, particularly when the content of the report is deemed reliable. This indicates that the

market's response to sustainability disclosures goes beyond mere compliance; it hinges on perceived authenticity and thoroughness of the disclosed information. Notably, the research finds that companies listed on major stock exchanges tend to publish comprehensive ESG reports more frequently, even when they are not mandated, suggesting a growing perception that ESG disclosures translate into tangible economic advantages. Moreover, the paper reveals that between 2011 and 2019, the overall quality of ESG reporting has improved as companies strive to boost their share prices through sustainability narratives. This finding resonates with broader trends in investor sentiment, where stakeholders increasingly reward businesses that demonstrate substantive commitments to environmental responsibility and social well-being. The authors propose that governments and regulators could standardize assurance reporting, thereby ensuring comparability, reducing greenwashing, and strengthening the trust investors place in ESG disclosures (Miralles-Quirós et al., 2021).

The paper of Arribas (2021) evaluates the conceptual underpinnings of socially responsible investments, focusing on whether these indices genuinely eliminate unethical or irresponsible companies. Two limitations are highlighted namely the absence of universally recognized definitions for ESG-compliant businesses and the controversies regarding audit agencies that rate these firms. The research examines the Dow Jones Sustainability Index (DJSI) World and finds that around 10% of its constituent companies faced controversies, though the number of such companies declined by 40% from 2011 to 2016. This finding indicates a trend toward stricter enforcement of sustainability benchmarks but also uncovers inherent methodological flaws, such as geographic bias in the composition of the DJSI and calls for more transparent rating methodologies. Also, the observations underscore the complexities of measuring ESG performance uniformly across diverse regions, industries, and cultural contexts. While the existence of sustainability indices signals increased market demand for ethical investments, it is paramount to refine their underlying rating processes to bolster the credibility and impact of ESG-oriented portfolios (Ariba et al., 2021).

In a similar way, Blankenberg's (2018) study focuses on whether socially responsible investments necessarily imply a compromise on financial returns. Through empirical tests comparing traditional and socially responsible portfolios across three-year and five-year timelines, Blankenberg (2018) concludes that traditional portfolios often exhibit slightly superior performance. However, the study attributes this discrepancy to contextual factors, chief among them is the heightened volatility in green-energy-dominated industries during financial crises (e.g., 2008-2009), when oversupply and reliance on external funding drastically undermine profitability. Despite identifying short-term volatility among sustainable investments, Blankenberg (2018) posits that ESG-driven portfolios remain competitive, particularly when they are more diversified. The main weakness of the argument is that the limited sample size, only 20 stocks per portfolio, and a relative lack of diversification in the ESG basket may have skewed the findings. The paper ultimately maintains that socially responsible portfolios have substantial potential for long-term competitiveness, especially when they minimize volatility through broader industry and geographic diversification (Blankenberg, 2018).

The research of Jain (2024) operates on a similar premise but adopts a different methodological lens. By analysing closing prices from a variety of traditional and ESG indices between January 2013 and December 2017, the findings confirm the heightened volatility of ESG-focused indices. Surprisingly, the study also detects a significant correlation between ESG indices and their traditional counterparts in both short-term and long-term horizons, suggesting that broad market fluctuations affect both types of investments in a comparable manner. When examining risk-adjusted returns, Jain (2024) concludes that there is no statistically significant difference between ESG and traditional indices. This revelation is very important, because it runs counter to the popular notion that socially responsible investments

invariably produce inferior financial returns. Instead, it argues that ESG indices can be viable alternatives, perhaps even equally competitive with their conventional counterparts over time. This nuanced perspective aligns well with Blankenberg's (2018) findings, reinforcing the view that ESG volatility does not necessarily translate into weaker performance (Jain et al., 2024).

La Torre's (2020) paper extends the conversation by zeroing in on whether ESG-conscious firms enjoy advantages in the stock market. The focus is the Eurostoxx50 companies, among the largest and most liquid stocks in Europe. The authors employ multiple linear regression models to evaluate the correlation between ESG scores and stock returns, highlighting a foundational challenge: the inconsistency and opacity of ESG scoring systems.

Their analysis uncovers that ESG factors do not uniformly affect stock returns; rather, there is a pronounced sectoral dimension. Energy companies, in particular, exhibit clearer and more significant correlations between their ESG scores and market performance. This finding suggests that while ESG data can be somewhat inconclusive in a broad, cross-sectional context, it can still offer considerable explanatory power in certain high-impact industries. Like many other studies in the field, La Torre's conclusion reiterates the limitation of lacking a universal rating or measurement standard that can be applied unilaterally across markets (La Torre et al, 2020)

Finally, Shaik & Rehman (2023) work adds a geographic dimension to the debate, focusing on the comparative efficiencies of sustainable and conventional indices across various global regions. According to the study, ESG indices in the Middle East, the United States, Europe, and some emerging markets marginally outperform their conventional counterparts. By contrast, similar indices underperform in Asia, Africa, and Latin America. Additionally, Rehman observes that ESG indices in developed economies appear less volatile, a phenomenon potentially linked to robust regulatory frameworks and public policy support. The paper thereby underscores how regional contexts, shaped by local laws, infrastructure, and investor preferences, can dramatically influence the efficiency and attractiveness of ESG investments. When viewed alongside Arribas's (2021) analysis, it becomes evident that global ESG frameworks must contend with significant divergence in governance and cultural norms, leading to an uneven adoption of socially responsible principles worldwide (Shaik & Rehman, 2023).

3. METHODOLOGY

This study merges insights from the aforementioned literature with an original analytical framework designed to evaluate the impact of sustainable stock indices on both corporate performance and investor behaviour. First, a thorough review of relevant research was conducted, including the central findings of Miralles-Quiros (2021), Arribas (2020), Blankenberg (2018), Jain (2024), La Torre (2020) and Rehman (2023). Using a thematic analysis approach, recurring constructs (e.g., ESG indices, credibility and assurance in ESG reporting, performance versus volatility, regulatory discrepancies) were identified as critical areas of focus. Building on the literature, the study performed a comparative assessment of a selection of sustainable indices (e.g., DJSI World, S&P 500 ESG) against their conventional benchmarks (e.g., Dow Jones Global, S&P 500). Total returns, price volatility, and sectoral composition were examined over a multi-year horizon to gain insights into whether ESG-aligned portfolios produce unique risk-adjusted returns. While the raw performance data for these indices was derived from official sources such as S&P Dow Jones Indices, publicly available company financial statements, and prior academic works, the present study focuses on overarching trends rather than employing rigorous econometric modelling of each dataset. Last, the study scrutinized major ESG rating providers' methodological frameworks (e.g., the Corporate Sustainability Assessment used by Dow Jones, and the specialized exclusion criteria

of the S&P 500 ESG). The goal was to contextualize how such frameworks shape or constrain index composition. The implications for policy reforms, especially regarding standardization and heightened transparency, were also explored.

4. RESULTS AND DISCUSSIONS

As an overview of selected sustainable stock indices versus traditional Indices, as previously mentioned, the S&P 500 ESG Index includes top-performing S&P 500 companies by market capitalization while excluding controversial industries (e.g., tobacco, weapons, coal) and omitting those that fall below certain ESG thresholds (S&P Dow Jones Indices, 2025). A comparison of the annual total returns of the S&P 500 versus the S&P 500 ESG Index is presented in Table 1.

Table 1 – Comparison Between Traditional and Sustainable S&P 500 Indices Total Returns

Year	S&P 500 Annual Total Return	S&P 500 ESG Index Annual Total Return
2023	26.29%	27.99%
2022	-18.11%	-17.67%
2021	28.71%	31.78%
2020	18.40%	19.79%
2019	31.49%	33.39%
2018	-4.38%	-3.95%
2017	21.83%	21.26%
2016	11.96%	12.55%
2015	1.38%	0.53%
2014	13.69%	13.93%

Source: representation made by author, based on the data retrieved from Spglobal (2025)

Although the two indices track similarly, certain years reveal slight outperformance by the ESG benchmark. For instance, in 2021, the S&P 500 ESG Index posted a notably higher return than the traditional S&P 500. However, this could be influenced by back-data biases, since the ESG index was launched in 2019, and its particular methodology of excluding specific industries or low-ESG-scoring companies. Also, the S&P 500 ESG Index tends to feature the biggest and most successful companies. Their inherently large market capitalizations may partly explain the marginal performance advantage.

Compared to the S&P 500 ESG approach, the Dow Jones Sustainability World Index (DJSI World) employs the Corporate Sustainability Assessment (CSA) to identify the top 10% of companies based on long-term economic, environmental, and social criteria (S&P Dow Jones Indices, 2025). This results in a composition that is more noticeably distinct from the traditional Dow Jones Global Index. The annual price returns of the two indices over several years are presented in Table 2.

Table 2 – Comparison Between Traditional and Sustainable Dow Jones Indices Price Returns

Year	Dow Jones Global Index Price Return	Dow Jones Sustainability World Index Price Return
2023	19.51%	20.20%
2022	-19.88%	-17.77%
2021	16.14%	17.99%

Year	Dow Jones Global Index Price Return	Dow Jones Sustainability World Index Price Return
2020	14.08%	12.66%
2019	23.71%	24.14%
2018	-11.68%	-10.84%
2017	21.84%	24.18%
2016	5.87%	4.68%
2015	-4.02%	-6.66%
2014	2.12%	-1.05%

Source: representation made by author, based on the data retrieved from Spglobal (2025)

In some years, the sustainability index outperforms (e.g., 2017, 2019, 2021, 2023), while in other years it either underperforms or exhibits marginal differences compared to the Dow Jones Global Index. Notably, the DJSI World's methodology leads to a smaller, more specialized group of firms (around 300+), creating a portfolio that sometimes diverges more from the market norms than broader ESG indices like the S&P 500 ESG. Additionally, DJSI World was launched much earlier, in 1999, then the S&P 500 ESG Index in 2019, which may account for a more evolved methodology and possibly higher acceptance among market participants.

Recent evidence suggests that many publicly traded companies now recognize the importance of thorough ESG disclosures in shaping investor perception. Initially, many firms treated ESG reporting primarily as a public-relations exercise, often triggered by scandals or negative publicity. Over time, however, such reports have evolved into more detailed, standardized documents. This development aligns with the findings of Miralles-Quiros (2021), who noted that ESG disclosures have become more robust over the past decade, potentially helping companies manage reputational risks and appeal to socially conscious investors.

Nevertheless, there remains a persistent challenge of "greenwashing," particularly in the absence of an industry-wide template for ESG disclosures. Companies that invest in externally audited, comprehensive reports often find themselves overshadowed by peers publishing incomplete or selectively presented metrics. This discrepancy highlights the urgent need for policy interventions that harmonize and verify ESG reporting.

Regarding the performance patterns of sustainable Stock Indices, consistent with Blankenberg (2018)'s and Jain et al. (2024) discussions, the differences in annual returns between ESG indices (e.g., DJSI World) and their conventional counterparts (e.g., Dow Jones Global) often remain modest, with neither type consistently outperforming the other over the entire sample period. Some indices such as the DJSI World showed marginally higher returns in certain years, while in others, they underperformed their mainstream equivalent. This pattern aligns with Jain's finding that, on a risk-adjusted basis, ESG indices can match, and occasionally surpass, traditional indices, pushing back against the assumption that sustainability equates to lower returns (Jain et al., 2024).

Regarding the volatility concerns, echoing Blankenberg's (2018) assertion that ESG portfolios can be more volatile, the data also revealed higher levels of annualized volatility in certain ESG indices, especially those highly exposed to alternative energy firms. Thus, the volatility stems partly from the sensitivity of green industries to regulatory changes, reliance on governmental subsidies, and market oversupply issues (as seen in solar or wind technologies). Yet, for large-cap dominant ESG indices like the S&P 500 ESG, the volatility differential was minimal compared to the traditional benchmark, suggesting that the size and diversification of component firms mitigate fluctuations. (Blankenberg, 2018)

Energy and industrial sectors continue to exhibit the most pronounced performance disparities. Sustainable indices that emphasize renewable energy can experience more significant swings, responding to changes in policy support or fluctuations in commodity prices

(e.g., oil vs. solar). These findings (S&P Dow Jones Indices) support La Torre et al. (2020) conclusion that sectoral variables can overshadow the broad-based ESG effect on performance.

Rehman's (2024) contention that geographical factors dictate the extent to which ESG indices outperform conventional ones was also borne out by the data reviewed here. ESG indices in developed markets, such as the U.S. or Western Europe, often displayed returns on par with or slightly above their benchmarks and with marginally lower volatility. By contrast, ESG products in emerging markets or regions with less comprehensive regulatory environments exhibited inconsistent, and sometimes underwhelming, performance records. The discrepancies in corporate governance standards, adherence to environmental regulations, and general economic infrastructure all contribute to these divergent results.

Recent evidence reveals a clear shift among institutional investors, such as pension funds and insurance companies, toward integrating ESG criteria as part of standard due diligence. Heightened regulatory focus, notably in the European Union, has introduced new guidelines, e.g., the EU Taxonomy for sustainable activities (European Commission and United Nations). Even in markets without strict ESG mandates, there is a growing expectation that future regulations will become stricter. This development is driving many companies to adopt at least baseline ESG measures to remain competitive and safeguard themselves against potential sanctions (Arribas, 2020).

Despite the encouraging developments, systemic gaps remain. Most notably, the absence of a universal ESG rating methodology can result in contradictory scores for the same company across different rating agencies. Recent developments also underscore the rise of external audits for sustainability reports while highlighting the lack of uniform standards (Miralles-Quirós, 2021). Consequently, well-intentioned companies may receive suboptimal ESG scores due to technical discrepancies in reporting, whereas those adept at marketing could paint an overly optimistic picture of their sustainability record. These trends align with Arribas (2021) caution about potential flaws in the rating process and underscore the urgent need for standardized ESG definitions and criteria.

5. CONCLUSIONS

Over the last decade, corporations have increasingly embraced transparent ESG disclosures, recognizing the reputational and financial benefits thereof. External assurance mechanisms have improved the trustworthiness of these disclosures, although further standardization remains necessary to fully address "greenwashing" concerns. Empirical evidence on whether ESG indices outperform conventional ones remains inconclusive. While certain indices, such as the DJSI World, occasionally post higher returns, others underperform in specific contexts, suggesting that ESG integration alone does not guarantee superior financial performance. Nevertheless, risk-adjusted analyses often show parity or marginal outperformance by ESG portfolios, debunking the assumption that sustainability inherently equates to lower returns.

Industry and geographic factors exert meaningful effects on how ESG initiatives translate into performance. Renewable energy companies contribute to higher volatility, while robust regulatory frameworks in developed economies can enhance the stability and appeal of ESG investments. Concerns about the consistency and comparability of ESG scores and sustainability reporting signal the necessity for global standardization. Such harmonization would curtail greenwashing, enable investors to make more informed choices, and level the playing field for genuinely responsible businesses.

From a policy perspective, there is a clear mandate for regulators to prioritize uniform ESG reporting requirements and stringent verification procedures. Creating incentives for more rigorous ESG disclosures, alongside punitive measures for greenwashing, can reinforce trust

in sustainable capital market products. Firms, for their part, should invest in credible sustainability metrics and transparent governance structures to meet stakeholder expectations and stay ahead of evolving regulations.

The convergence of investor demand, societal expectations, and forward-looking corporate management is likely to accelerate the mainstreaming of sustainability principles. As the global community continues to grapple with climate change, social inequality, and governance failures, the capital markets can serve as a dynamic forum where financial returns and sustainability objectives align. The ongoing evolution of sustainable stock indices, alongside ever-more sophisticated ESG assessments, signals that this alignment is not merely aspirational but increasingly integral to how we conceptualize and operationalize the global economy of the future.

The research has some limitations. First, the reliance on secondary data for index performance restricts the capacity to identify confounding factors, such as macroeconomic conditions and sector-wide shocks. Second, while the frameworks of major ESG rating providers were reviewed, the study did not undertake a deep technical dissection of algorithms or weighting schemes, an exercise that would require proprietary access.

As sustainability moves from a peripheral consideration to an integral component of capital markets, future research might further investigate the interplay between ESG-specific variables and financial outcomes across a broader timeframe. Longitudinal studies that capture multiple economic cycles could yield deeper insights into the resilience and risk profiles of ESG-focused investments. Additionally, the development and refinement of universal ESG frameworks would benefit both practitioners and researchers, enabling a more accurate evaluation of the link between corporate responsibility and financial metrics.

REFERENCES

1. Arribas, I., Espinós-Vañó, M.D., García, F., Oliver, J. (2020). Defining socially responsible companies according to retail investors’ preferences. Entrepreneurship and Sustainability Issues, 7(2), 1641-1653
2. Arribas, I., Espinós-Vañó, M.D., García, F., Riley N. (2021) ‘Do irresponsible corporate activities prevent membership in sustainable stock indices? the case of the dow jones sustainability index world’, *Journal of Cleaner Production*, 298, p. 126711.
3. Blankenberg, Ann-Kathrin and Gottschalk, Jonas F. A. (2018), Is Socially Responsible Investing (SRI) in Stocks a Competitive Capital Investment? A Comparative Analysis Based on the Performance of Sustainable Stocks (May 28, 2018). CEGE Discussion Paper No. 349 - May 2018.
4. Boitan, I. A. (2020). Sustainable stock market indices: A comparative assessment of performance. *Journal of Research in Emerging Markets, 2*(1), 7–14.
5. Comms (2023). ESG and Sustainability – what’s the difference? PeaSoup Cloud. https://peasoup.cloud/eco/esg-and-sustainability-whats-the-difference. Accessed on January 2025.
6. European Commission. (2025). *Sustainable development goals.* https://commission.europa.eu/strategy-and-policy/sustainable-development-goals_en Accessed on January 2025.
7. Jain, K., Seth, N., & Bhaskar, P. (2024). Diversification Opportunities: Are Sustainability Indexes A New Option. Pacific Business Review International, 16(9).
8. La Torre, M., Mango, F., Cafaro, A., & Leo, S. (2020). Does the ESG Index Affect Stock Return? Evidence from the Eurostoxx50. *Sustainability*, *12*(16), 6387.

9. Miralles-Quirós, M. M., Miralles-Quirós, J. L., & Daza-Izquierdo, J. (2021). The assurance of sustainability reports and their impact on stock market prices. *Cuadernos de Gestión, 21*(1), 47–60.
10. Oprea, I., & Duta, D. (2024). Banking Digitisation: The Foundation for Financial Inclusion and Sustainable Growth. Revista de Drept Bancar si Financiar, 18.
11. Shaik, M., & Rehman, M. Z. (2023). The Dynamic volatility connectedness of major environmental, social, and governance (ESG) stock indices: Evidence based on DCC-GARCH model. Asia-Pacific Financial Markets, 30(1), 231-246.
12. S&P Dow Jones Indices. (2025). *Dow Jones Sustainability Indices - indices: S&P dow jones indices.* https://www.spglobal.com/spdji/en/index-family/esg/core-esg/dow-jones-sustainability-indices/#overview Accessed on January 2025.
13. Spglobal (2025), Dow Jones Indices. *Global - indices: S&P dow jones indices.* https://www.spglobal.com/spdji/en/regional-exposure/global/#overview Accessed on January 2025.
14. Spglobal (2025), Dow Jones Indices *S&P ESG - indices: S&P dow jones indices.* https://www.spglobal.com/spdji/en/index-family/esg/core-esg/sp-esg/#overview Accessed on January 2025.
15. SSE (2023). *SDG 5. Sustainable Stock Exchanges,* https://sseinitiative.org/ Accessed on January 2025.
16. United Nations. (2025). *The 17 Goals | Sustainable Development.* https://sdgs.un.org/goals Accessed on January 2025.
17. United Nations (2015). The 2030 agenda for sustainable development. Retrived from 21252030 Agenda for Sustainable Development web.pdf, Accessed on January 2025.