

MEMOIRE

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ESG Integration in Equity Portfolios: An Empirical Study on Financial Performance across US and European Markets

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Executive Summary

Growing concerns about climate change and social disparities have driven a significant rise in the importance of sustainable finance and investing within the financial sector. This has led to substantial regulatory changes mandating companies to disclose sustainable information and meet specific criteria for classifying financial products. Consequently, the sustainable financial industry rapidly expands and provides diverse investment options.

Early adopters of sustainable investing were initially driven by personal values like ethics and environmental concerns. However, recent surveys indicate a shift in focus. Today, significant ESG holdings are held primarily by investors expecting market outperformance, viewing ESG (Environmental, Social, Governance) information as material for investment success. Nonetheless, some investors are cautious due to concerns about potential underperformance, highlighting the enduring significance of financial performance, even among those who prioritise making a positive impact through sustainable investing.

Most research emphasises the significance of ESG factors for companies, highlighting a positive relationship between sustainability and company financial performance. This relationship is often attributed to factors such as proactive environmental initiatives providing competitive advantages, strong social reputations improving stakeholder relations, and better alignment between shareholder and management interests. These findings align with established theories such as Stakeholder Theory, Porter Hypothesis, Natural Resource-Based View, and Agency Theory.

However, the research community lacks consensus on whether ESG investing strategies can generate abnormal returns for investors. Variability in findings is often attributed to factors such as data type, geographic scope, methodology, time periods, and other variables, leading to inconclusive results. According to the Efficient Market Hypothesis, there should be no link between risk-adjusted returns and ESG, as all publicly available and historical information, including third-party ESG ratings, should be incorporated into asset pricing, making consistent abnormal returns impossible. However, empirical evidence suggests that markets are not always perfectly efficient, and potential anomalies could arise from factors such as investor irrationality, biases, and tastes. In the context of ESG, such anomalies might emerge due to shifts in ESG awareness and motivation, or underreactions to ESG-related information. Other factors possibly influencing performance include reduced diversification opportunities from implementing ESG screens and higher turnover rates. However, some argue that these drawbacks are balanced out by the superior quality of the remaining assets. Overall, the empirical studies offer a mixed view, underlining the need for further investigation into integrating ESG factors into investment portfolios to understand to what extent it is possible to achieve financial success with sustainable portfolios.

This quantitative study examined to what extent the integration of ESG data into stock portfolio construction affects risk-adjusted returns and whether investors can devise strategies to leverage this information effectively. Portfolios were constructed from constituents of the S&P 500 and STOXX Europe 600 indices using a holding-based approach. The analysis utilised the Refinitiv ESG combined score (ESGC), which adjusts companies' ESG scores based on controversies, providing a holistic view of sustainability performance. To examine strategies beyond basic negative screening, which is often linked to underperformance due to restrictive criteria or timing costs, the portfolios included annually rebalanced traditional top and bottom ESGC portfolios, as well as innovative ESGC-weighted portfolios. The Fama-French 5-factor model was employed to assess risk-adjusted returns over 14 years (2010-2023), divided into two 7-year segments. A separate analysis examined the volatile period of the COVID-19 pandemic, encompassing both the drawdown and recovery phases.

Examining top and bottom ESGC score portfolios revealed statistically similar risk-adjusted returns over extended periods, regardless of whether investors pursued sustainable or unsustainable investment strategies. Variations in simple returns primarily stemmed from differing risk exposures. Sustainable portfolios typically exhibited lower systematic risk, favoured larger, value-oriented stocks, and adopted conservative investment approaches. However, statistically significant alphas were observed in two instances, suggesting potential deviations from market efficiency or study limitations.

Firstly, the recent subperiod from 2017 – 2023 revealed either statistically significant positive alphas for sustainable or long-short portfolios, or negative alphas for unsustainable portfolios. However, these findings were only partially robust to alternate portfolio weighting approaches or multi-factor regressions. This trend may reflect evolving regulations and growing consumer awareness or motivation, potentially driving momentum toward sustainable assets and overvaluing or correcting undervalued asset prices. However, this observation could also stem from limitations in the study, particularly in the selection of ESG data providers, as rating discrepancies among providers could significantly influence the findings. Furthermore, if indeed a deviation from market efficiency was observed, it is unlikely that alphas would persist over time. If this deviation stemmed from a price correction due to the previous lack of consideration of material ESG information, current prices would now reflect their fair value. Alternatively, if this deviation was driven by a demand hype around sustainable stocks, prices would now be overvalued, leading to lower future performance. Similar risk-adjusted returns over the 14-year period further support the notion that deviations would likely occur only for smaller subperiods, with a return to market efficiency probable over extended periods.

Secondly, a contradictory observation with statistically significant negative alphas surfaced when analysing value-weighted portfolios in the U.S. context. One explanation could be linked to reduced diversification and a specific bias in the ESGC score, particularly pronounced in the U.S. market. The largest companies received disproportionately lower ESGC scores due to heightened media scrutiny leading to increased controversies. This, coupled with the historical outperformance of the largest companies relative to the index, could have contributed to the negative alphas.

Despite numerous studies suggesting possible benefits of ESG during high volatility periods, the analysis of the COVID-19 pandemic yielded inconclusive or neutral findings. No statistically significant alphas were observed, thus failing to explain the previously mentioned positive alpha in the 2017 – 2023 subperiod. Risk-adjusted returns remained similar during the recovery but diverged during drawdown periods, although not to a significant extent. While the relationship was positive in the U.S., it was negative in Europe, suggesting a need for further exploration, especially given the relatively under-researched European context. A potential limitation lies in the methodology's failure to fully capture asymmetrical benefits like reduced downside risk and volatility. Future research directions could involve focusing solely on high-volatility periods to re-examine these findings or analysing the post-COVID-19 pandemic period to investigate the positive alpha observed in the recent subperiod.

Incorporating an additional ESGC weighting overlay onto traditional equal- or market value-weighted portfolios significantly enhanced the sustainability profile while maintaining similar risk-adjusted returns over extended periods and slightly higher risk-adjusted returns in the recent subperiod. Thus, the findings mirror those of the top and bottom ESGC score portfolios. Acknowledging the increased turnover associated with integrating ESGC weights, various levels of additional turnover-related fees were introduced. Results indicate that these extra fees were minimal, leading to overall similar net returns. In line with efficient markets, investors should expect to pay a slight premium due to slightly higher turnover-related fees. However, this study demonstrated that this does not significantly disadvantage sustainable investors. This underscores ESGC weighting as an intriguing approach to enhancing sustainability without screening out stocks or industries and potentially missing out on diversification opportunities.

The response to the research question indicates that integrating ESGC data into stock portfolio construction does not significantly affect risk-adjusted returns over extended periods. As a result, investors cannot leverage this information to improve their risk-adjusted returns, yet they need not be concerned about a decline in performance. Instead, they can employ it to increase the average ESGC score of their portfolio, for instance, through ESGC-weighted portfolios, thus boosting sustainability without compromising financial performance.

This thesis has substantial implications for investors and asset managers, highlighting two key findings. Firstly, investors can integrate sustainability into their investment strategies without sacrificing risk-adjusted returns. However, achieving this necessitates accessible and cost-effective integration methods, underscoring the significance of passive-managed ETFs that offer advanced approaches beyond basic negative screening. Secondly, asset managers may consider innovative products like passive managed ESG-tilted indexes, which could offer comparable risk-adjusted returns while boosting sustainability without excluding companies. This could serve as a unique selling point in a potentially saturated market landscape.