

The Relationship Between ESG Scores and Long-Term Stock Performance

Roshan Jain
roshanhjain28@gmail.com

ABSTRACT

ESG investing, evaluating companies based on environmental impact, social responsibility, and governance quality, has become a more important part of stock markets, as investors consider sustainability and ethical practices, along with traditional performance metrics. This paper seeks to answer the research question: How do ESG scores correlate with stock performance? To answer this, the paper utilizes historical stock price data sourced from Yahoo Finance and compares prices to ESG scores for publicly traded stocks to evaluate whether there is a correlation between ESG score and price. Using regression analysis across three performance metrics, including Sharpe ratio, standard deviation, and geometric stock return, the results show that there is no statistically significant correlation between ESG scores and stock performance. The findings suggest that, within this dataset, ESG ratings alone cannot reliably predict long-term financial returns or volatility, contributing to the ongoing debate about the importance and effectiveness of ESG investing strategies.

INTRODUCTION

Since the early 2010s, investors have been more focused on more than a company's financial performance and consider how responsibly and sustainably a company operates. The creation of this approach, known as ESG (Environmental, Social, and Governance) investing, began with the 2005 UN report "Who Cares Wins," which outlined how environmental, social, and governance factors affect a company's value. However, investors did not take ESG investing seriously until the mid-2010s, particularly after the 2015 Paris Climate Agreement and especially after major capital commitments from asset managers like BlackRock and Vanguard around 2015-2020. This approach evaluates a company based on factors such as its environmental impact, treatment of employees, and quality of corporate governance. ESG scores are a way to measure how well a company performs in areas beyond just profit, focusing on environmental, social, and governance practices. Experts define them as numerical ratings that quantify a company's sustainability, ethical impact, and quality of management (Macesar, 2025).

As climate change, social inequality, and ethical governance have become global concerns, ESG investing has become more popular, influencing trillions of dollars in assets worldwide. Many investors and

analysts argue that companies with strong ESG practices are better managed, face fewer long-term risks, and are more likely to grow steadily (Benson, 2025).

However, despite its growing popularity, there are still debates about whether ESG scores actually correlate with financial performance. This debate exists because studies have produced inconsistent findings, with some identifying a positive relationship between ESG scores and stock performance, while others show the opposite.

Several studies suggest that strong ESG scores may lead to improved financial outcomes, especially during periods of bad markets. Research conducted during the COVID-19 financial crisis found that firms with better ESG scores, particularly the environmental component, experienced higher returns and lower volatility (Yoo et al., 2021). Similarly, reports from NYU argue that ESG-focused portfolios may reduce overall risk, supporting the idea that responsible behavior can act as a form of risk management (Whelan et al., 2021).

On the other hand, some research finds little to no relationship between ESG scores and stock performance. Studies published in *The North American Journal of Economics and Finance* argue that selecting stocks based on ESG ratings has little impact on stock returns, as markets have already incorporated ESG data into the price of a stock (Vu et al., 2025). These findings challenge the idea that ESG scores can serve as reliable predictors of long-term stock performance.

One of the most significant challenges in previous studies is the inconsistency of ESG rating systems. Rating agencies such as Bloomberg, LSEG, MSCI, Sustainalytics, and ISS use differing methodologies to score companies, resulting in low agreement between providers. This inconsistency in scores makes it difficult to rely on ESG ratings as indicators for financial performance. Because each agency uses different methodologies and weighting systems, it leads to disagreement over what deserves a “good” ESG score (Sustainable Growth Navigator, n.d.; Hupart et al., 2024; Ecovadis, n.d.). These factors make it difficult for investors to understand whether prioritizing ESG metrics leads to financial benefits. In **Table 1**, ESG scoring criteria and methodologies from 5 rating agencies can be seen.

Name	Score Criteria
LSEG (formerly Refinitiv)	Percentile rank score (0–5, higher being better) based on 10 ESG themes; benchmarked against industry peers (environmental/social) and the country they operate in (governance)
Sustainalytics (Morningstar)	Measures a company’s exposure to industry-specific ESG risk and how much of that risk is left unmanaged; a lower unmanaged risk score is better (0 is best, higher is worse)

MSCI ESG Ratings	Seven-tier letter scale from AAA (Leader) to CCC (Worst), based on an Industry Score (0–10) combining exposure to and management of ~35 key ESG issues
Bloomberg ESG Scores	Separate E, S, and G scores on a 0–100 scale (100 = best), based mostly on company-reported data from sustainability reports and filings
ISS ESG Rating	Incorporates GRI, SASB, and TCFD reporting standards into disclosure and performance scoring, with sector-relative benchmarking

Table 1: ESG Metric Methodologies

Sustainable investing continues to evolve, with climate change and the UN Sustainable Development Goals (SDGs; 17 global goals set by the United Nations to address major challenges like poverty, inequality, climate change, and peace by 2030) increasingly influencing investment strategies. Analysts emphasize the importance of private investment to meet SDG funding needs, as well as the emergence of financial tools such as green bonds, sustainability-linked loans, and shorting unsustainable firms (Uzsoki, 2020). Tom Steyer’s book, *Cheaper, Faster, Better: How We’ll Win the Climate War*, demonstrates that environmentally focused companies, like green tech and clean energy firms, can provide ecological benefits and cost advantages. Despite these innovations, these shifts in investment strategy do not necessarily translate into clear, measurable stock performance linked to ESG scores.

Across studies, the relationship between ESG scores and stock performance appears inconsistent. While some evidence points to potential risk management benefits, other studies show no significant advantage. This lack of agreement highlights the need for additional research. Therefore, this paper aims to address the ongoing debate with this question: How do ESG scores correlate to stock performance?

The purpose of this research is to explore the relationship between ESG scores and stock performance. By comparing ESG ratings from multiple providers with financial performance metrics such as the Sharpe ratio (risk-adjusted return), geometric stock return (accounting for compounding), and standard deviation (volatility) across companies of different sizes and industries, this study aims to determine whether ESG scores can reliably predict the performance of a stock.

FRAMEWORK

Understanding why ESG scores could predict stock performance is as important as actually testing whether they do. This paper considers three probable ways why ESG performance would affect stock outcomes.

The first channel is through risk management. Companies with stronger environmental, social, and governance practices in theory face lower exposure to regulatory penalties, litigation, and operational disruptions, which could translate into more stable returns and lower volatility. This logic is supported by research conducted during the COVID-19 financial crisis, which found that firms with stronger ESG scores, particularly on the environmental component, experienced higher returns and lower volatility during the market collapse (Yoo et al., 2021), and by NYU Stern's analysis of over 1,000 studies, which found that ESG-focused investing strategies were associated with reduced portfolio risk (Whelan et al., 2021).

The second channel is the cost of capital. If investors start favoring companies with better ESG scores, high-scoring firms may benefit from greater access to capital and a lower required rate of return from both equity and debt investors. Research from MSCI comparing ESG rated companies across global markets found that firms with the highest ESG scores consistently experienced a lower average cost of capital than those with lower scores (Lodh, 2020). This suggests that ESG performance can influence a company's financing costs and, therefore, its potential for growth and profitability.

The third and final channel is through a company's reputation and newer trends. As public awareness of sustainability and corporate ethics grows, consumers are increasingly favoring products and brands that align with their values, which translates ESG performance into revenue and brand loyalty. A 2023 study analyzing the relationship between corporate ESG management and consumer brand choice found that a company's social and governance activities had a measurable positive effect on brand image, brand attitude, and long-term brand loyalty (Lee & Rhee, 2023).

These three channels motivate the approach used in this study. Because each reason shows that ESG's effect on performance could be hidden by factors such as a firm's overall risk profile, its size, and its industry, the regression model that follows accounts for beta (market risk), market capitalization (firm size), and sector-level exposure to regulatory, consumer-facing, and capital-market pressures, in order to isolate ESG's effect on stock performance.

METHODS

This study investigates whether companies' ESG scores correlate with their stock performance. The hypothesis is that companies with better ESG scores will have higher Sharpe ratios, lower standard deviation, and higher geometric returns.

Sep 2026
Vol 11. No 4.

To ensure a balanced sample, the dataset included 44 publicly traded companies, with four randomly selected companies from each of the 11 GICS sectors (Global Industry Classification Standard, a system used to categorize companies into sectors and industries based on their primary business activities to help investors compare and analyze stocks). Selecting four firms per sector was meant to balance industry diversification, ensuring that no one sector disproportionately affected the results, and to help reduce bias towards one industry, as ESG scores can vary significantly across industries.

The sample also represented a wide range of firm sizes, including small-cap (\$300M–\$2B), mid-cap (\$2B–\$10B), large-cap (\$10B–\$200B), and mega-cap (over \$200B) companies, with 10-12 firms randomly selected from each market-cap category. This was designed to capture differences in ESG importance and financial performance across different-sized firms.

Of the five rating agencies discussed in **Table 1**, this study uses scores from LSEG and Sustainalytics because both provide ESG scores that were consistently accessible for the full sample of 44 companies, and because their differing methodologies (LSEG's percentile-rank system versus Sustainalytics' unmanaged-risk approach), they offer a useful contrast for testing whether results are sensitive to the choice of rating provider. Historical stock price data for each company, covering January 2005 to September 2025, were taken from Yahoo Finance. Using a 20-year data range allowed for the evaluation of long-term trends, while also reducing the effect of short-term price volatility.

Data Analysis: The independent variable was each company's overall ESG score from LSEG and Sustainalytics. The dependent variables were three measures of stock performance: the Sharpe ratio, standard deviation, and geometric stock return. Sharpe ratio is a measurement of risk-adjusted returns, standard deviation is the volatility of a stock, and geometric stock return is the compounding-adjusted return over time. Each performance metric was calculated using historical price data over 10-year and 20-year periods.

To test the relationship between ESG scores and stock performance while accounting for other factors that could influence these results, a multiple regression model was used rather than a simple comparison. A regression model is best suited to this question because it can isolate the independent effect of ESG scores on stock performance while statistically holding other influential factors constant. In addition to each company's ESG score, the model included five control variables: market capitalization, beta (a measure of a stock's volatility relative to the overall market), and three sector-exposure variables. Market capitalization and beta were included because firm size and market risk are both known to independently affect stock performance, and without taking them into account, any observed relationship between ESG scores and performance could reflect these other factors rather than the ESG scores themselves.

Sector was incorporated through three dummy variables representing categories of ESG-relevant industry exposure, each corresponding to one of the three channels described in the Framework section: a High Environmental/Regulatory Exposure group (Energy, Materials, Utilities, Industrials), reflecting the

risk-management channel; a Consumer-Facing group (Consumer Discretionary, Consumer Staples, Communication Services), reflecting the reputation/consumer-demand channel; and a Capital-Intensive group (Financials, Real Estate), reflecting the cost-of-capital channel. Information Technology and Health Care were treated as the omitted baseline category, meaning that the model's coefficients for the other three sector groups represent their difference in performance relative to these two sectors. This baseline was necessary to avoid perfect multicollinearity, which occurs when a full set of dummy variables for every category is included without omitting one as a reference point.

All calculations, including return metrics and regression outputs, were performed in Google Sheets. Separate regressions were run for each combination of ESG provider (LSEG and Sustainalytics), performance metric (Sharpe ratio, standard deviation, and geometric return), and time period (10-year and 20-year), for a total of 12 regression models.

To test whether any of the observed relationships were statistically significant, the regression output (coefficient, standard error, and t-statistic) for each ESG score variable was used to calculate a p-value. These p-values were used to determine whether the relationships between ESG scores and stock performance were statistically meaningful once market cap, beta, and sector exposure were held constant, or whether they could be attributed to random error. In addition, the overall R^2 for each model was calculated to assess how much of the variation in each performance metric was explained by the full set of predictors together, which helps distinguish whether a non-significant ESG coefficient reflects a weak model overall or a genuinely weak ESG effect within an otherwise explanatory model.

RESULTS

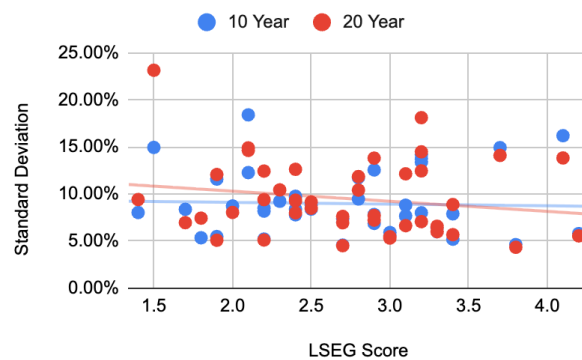
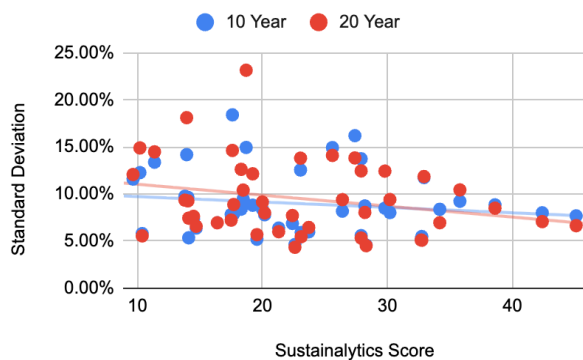
Stock Name	Ticker	Sector	Market Cap
Apple	AAPL	Information Technology	Mega
NetScout Systems	NTCT	Information Technology	Small
Johnson & Johnson	JNJ	Health Care	Mega
Pfizer	PFE	Health Care	Large
JPMorgan Chase	JPM	Financials	Mega
OceanFirst Financial	OCFC	Financials	Small
Nike	NKE	Consumer Discretionary	Large
Lithia Motors	LAD	Consumer Discretionary	Mid

Coca-Cola	KO	Consumer Staples	Large
United Natural Foods	UNFI	Consumer Staples	Small
ExxonMobil	XOM	Energy	Mega
Halliburton	HAL	Energy	Large
Rockwell Automation	ROK	Industrials	Large
SFL Corporation	SFL	Industrials	Small
Braskem S.A.	BAK	Materials	Small
Alcoa	AA	Materials	Mid
PPL Corporation	PPL	Utilities	Large
IDACORP	IDA	Utilities	Mid
Vornado Realty Trust	VNO	Real Estate	Mid
Agree Realty	ADC	Real Estate	Mid
AT&T	T	Communication Services	Mega
Gray Media Group	GTN	Communication Services	Small
Microsoft	MSFT	Information Technology	Mega
Progress Software	PRGS	Information Technology	Small
UnitedHealth Group	UNH	Health Care	Mega
Encompass Health	EHC	Health Care	Large
Bank of America	BAC	Financials	Mega
Lincoln National	LNC	Financials	Mid
Goodyear Tire & Rubber Co	GT	Consumer Discretionary	Small
Group 1 Automotive	GPI	Consumer Discretionary	Mid
Mondelez International	MDLZ	Consumer Staples	Large

Del Monte Corporation	DMC	Consumer Staples	Small
Chevron	CVX	Energy	Mega
Valero Energy	VLO	Energy	Large
Honeywell International	HON	Industrials	Large
Kadant Inc.	KAI	Industrials	Mid
Linde plc	LIN	Materials	Mega
Cabot Corporation	CBT	Materials	Mid
Middlesex Water Co	MSEX	Utilities	Small
Spire	SR	Utilities	Mid
Simon Property Group	SPG	Real Estate	Large
Macerich	MAC	Real Estate	Mid
Omnicom Group	OMC	Communication Services	Large
Cogent Communications	CCOI	Communication Services	Small

Table 2: Companies Analyzed by Sector and Market Cap

The randomly selected companies are represented in **Table 2**, along with their ticker, sector, and market cap; these are the companies whose ESG scores from Sustainalytics and LSEG are compared with three measures of stock performance: Sharpe ratio, standard deviation, and geometric return over 10-year and 20-year periods.



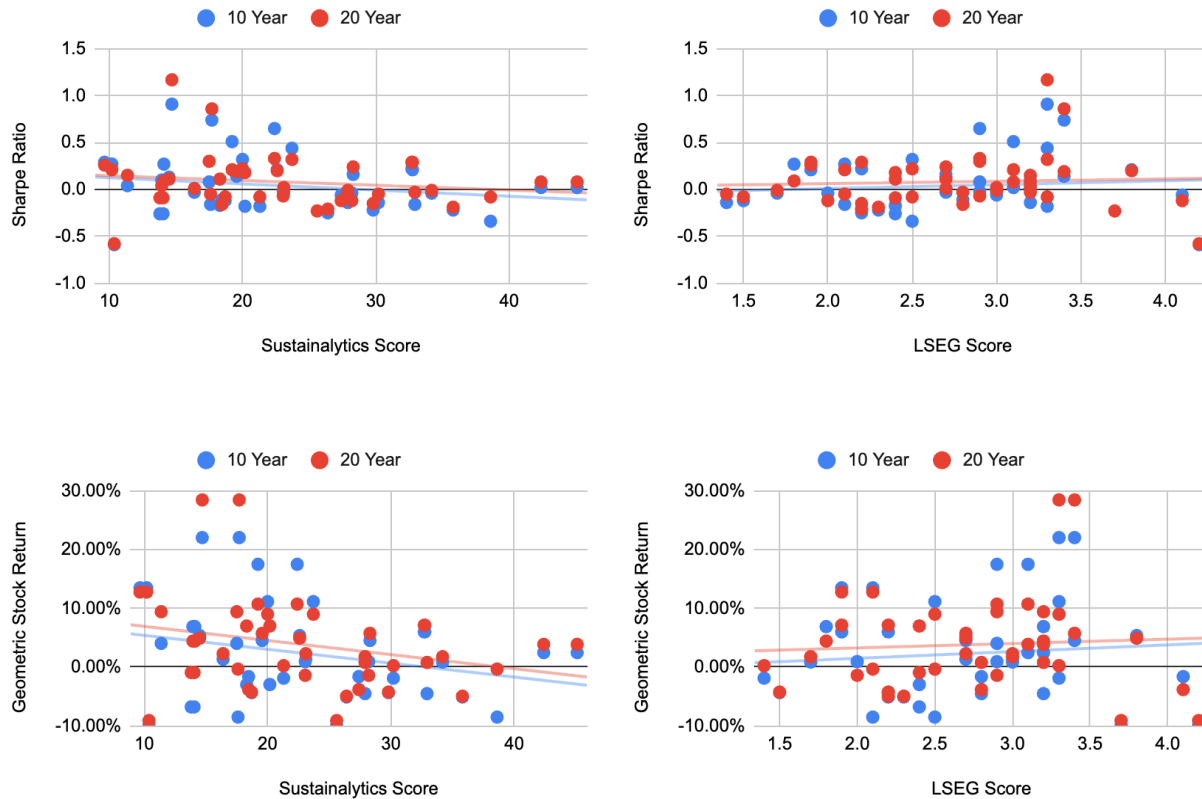


Figure 1: Scatter Plot Examining Stock Performance against ESG Scores

Figure 1 demonstrates the scatterplots comparing ESG scores to each of the three stock performance metrics across both the 10-year and 20-year time periods, with trendlines included to illustrate the direction and strength of each relationship. In each case, the trendlines were nearly flat, showing that ESG scores were associated with little to no change in stock performance metrics. However, these scatterplots reflect only the raw, uncontrolled relationship between ESG scores and performance; the formal test of significance, which accounts for firm size, market risk, and sector exposure, is reported in **Table 3** below.

	Coefficient / B Hat	Standard Error	T - Stat	P-Value	Model R ²
Sustainalytics / Sharpe 10 year	-0.003	0.005	-0.55	0.585	0.475
Sustainalytics / Sharpe 20 year	0.001	0.004	0.12	0.902	0.616
Sustainalytics / STDEV 10 year	0.055	0.061	0.9	0.372	0.476

Sustainalytics / STDEV 20 year	0.041	0.073	0.57	0.575	0.465
Sustainalytics / Geo 10 year	-0.158	0.154	-1.02	0.312	0.425
Sustainalytics / Geo 20 year	-0.11	0.123	-0.89	0.378	0.589
LSEG / Sharpe 10 year	-0.038	0.058	-0.660	0.516	0.477
LSEG / Sharpe 20 year	-0.062	0.045	-1.360	0.181	0.634
LSEG / STDEV 10 year	-0.206	0.666	-0.310	0.759	0.465
LSEG / STDEV 20 year	-1.037	0.772	-1.340	0.188	0.485
LSEG / Geo 10 year	-0.740	1.691	-0.440	0.664	0.412
LSEG / Geo 20 year	-1.362	1.333	-1.020	0.314	0.592

Table 3: Regression Results for ESG Scores and Stock Performance Metrics

As seen in **Table 3**, across all 12 regression models, none of the ESG score coefficients were statistically significant, with p-values ranging from 0.181 to 0.902. This indicates that once market capitalization, beta, and sector exposure were held constant, ESG scores had no meaningful effect on any of the three performance metrics, for either ESG provider or time period.

Notably, the overall R^2 values for these models ranged from 0.412 to 0.634, meaning that between roughly 41% and 63% of the variation in each performance metric was explained by the full regression model. This indicates that the models were not simply underpowered or poorly specified; market capitalization, beta, and sector exposure together captured a substantial share of the variation in stock performance. The lack of significance of the ESG scores strengthens the conclusion that ESG scores themselves are not a meaningful predictor of stock performance.

As a result, the null hypothesis of the test, that ESG scores do not affect stock performance once other relevant factors are controlled for, cannot be rejected. This indicates that ESG scores do not meaningfully predict long-term stock performance beyond what can already be explained by a company's size, market risk, and industry.

DISCUSSION

The purpose of this study was to determine whether ESG scores correlate with stock performance and to evaluate whether ESG scores can serve as indicators for long-term financial outcomes. The regression results showed that the relationships between ESG scores and the three stock performance metrics (Sharpe ratio, standard deviation, and geometric return) were non-significant across all 12 models, even after controlling for market capitalization, beta, and sector exposure. These findings indicate that, within this dataset, ESG scores did not predict stock performance over either 10-year or 20-year time periods.

Notably, the control variables explained a big share of variation in the calculations, with model R^2 values reaching as high as 0.634. This suggests the non-significant ESG results are not simply a product of an underspecified or noisy model. This means that actually, size, market risk, and sector exposure meaningfully predict performance, and that ESG scores do not hold any explanatory power beyond them.

While ESG investing plays an increasing role in investor decision-making, this study's findings support the idea that ESG ratings alone should not be used to predict long-term stock returns or volatility.

These findings do not support the hypothesis, and instead support the prior research that has found weak or inconsistent relationships between ESG scores and financial returns. In particular, studies published in *The North American Journal of Economics and Finance* also concluded that ESG scores do not reliably predict stock returns. ESG scores may not be a reliable indicator of financial performance because investors may have already priced ESG risks and benefits into stock valuations, leaving little room for ESG metrics to predict future performance.

Limitations

Several limitations may help explain the weak relationships observed. The first explanation is that the study used current ESG scores, not historical scores. Both LSEG and Sustainalytics only provide current ESG ratings. However, the financial performance metrics were calculated over 10-year and 20-year periods. This means that the analysis compared long-term stock data to present-day ESG scores, not to the ESG practices a company had over the entire period. A company with strong ESG practices today may not have had strong ESG practices in 2010 or 2005, which could weaken correlations. The second explanation is external market conditions. Over the 20-year window, stock performance was affected by events such as the 2008 financial crisis, the COVID-19 pandemic, and much more. These factors may have had a far stronger effect on stock returns and volatility than ESG scores, minimizing the extent to which ESG ratings could influence long-term performance. The last explanation is sample size. While the study used 44 companies across the 11 GICS sectors, the sample size still remains a modest number for a regression model with six variables, meaning the results should still be interpreted with some caution rather than being treated as definitive.

Next Steps for Research

Because ESG investing continues to evolve, there are several ways future research could expand on this study. Firstly, it could use historical ESG data to align ESG scores with the same time periods as the performance metrics. This could reveal new correlations, as companies' ESG practices may have changed significantly over 10-20 years. Secondly, it could expand the sample further beyond the current 44 companies, ideally into the hundreds, to increase the statistical power and make it easier to detect smaller or even sector-specific effects of ESG scores on stock performance. Finally, it could analyze ESG sub-scores—Environmental, Social, and Governance—separately to determine whether specific components correlate more strongly with returns. For example, the environmental portion scores may have a stronger impact on companies in certain sectors, while governance scores might matter more for others. Analyzing sub-scores allows for more advanced insights than overall ESG ratings alone.

This matter is relevant to everyday investors and the broader public, as millions of individuals now hold retirement accounts, index funds, and ETFs that are marketed with ESG labels, giving off the impression that “sustainable” investing also means smarter or safer investing. If ESG scores do not meaningfully predict financial performance, as this study suggests, investors may be paying premiums based on a false expectation of better returns. At the same time, understanding the limits of ESG scores does not decrease the value of corporate responsibility, but instead means the public should evaluate ESG investing for what it actually offers: a way to support ethical and environmentally responsible business practices, not a guaranteed path to higher profits. Clarifying this distinction helps investors make more informed decisions and encourages a more honest and transparent conversation about what sustainable investing can and cannot do.

CONCLUSION

This study examined whether ESG scores correlate with long-term stock performance, using 44 publicly traded companies across the 11 GICS sectors and multiple market-cap levels. After analyzing ESG ratings from Sustainalytics and LSEG against three performance metrics (Sharpe ratio, standard deviation, and geometric return) over 10-year and 20-year periods, controlling for firm size, market risk, and sector exposure, the results showed no correlation between the two, showing that ESG ratings alone do not reliably predict financial returns or performance. However, this does not mean that ESG considerations are unimportant. Rather than serving as a tool to help investors predict the market, ESG metrics may be better understood as a resource for promoting responsible corporate behavior and supporting broader societal goals.

REFERENCES

- Benson, A. (2025, February 7). *ESG for beginners: Environmental, social and governance investing* (M. Randall, Ed.). NerdWallet. <https://www.nerdwallet.com/investing/learn/esg-investing>
- Ecovadis. (n.d.). *ESG scores: Definition, use cases, importance, and how to improve*. <https://ecovadis.com/glossary/esg-environmental-social-governance-investing/>
- Hupart, J., Adams, D., McKitterick, W., & Kelsch, T. (2024, May 20). *Understanding ESG ratings: Legal insights & perspectives*. Mintz. <https://www.mintz.com/insights-center/viewpoints/2151/2024-05-20-understanding-esg-ratings-legal-insights-perspectives>
- Lee, H. J., & Rhee, T.-H. (2023). How does corporate ESG management affect consumers' brand choice? *Sustainability*, 15(8), 6795. <https://doi.org/10.3390/su15086795>
- Lodh, A. (2020, February 25). ESG and the cost of capital. MSCI. <https://www.msci.com/research-and-insights/blog-post/esg-and-the-cost-of-capital>
- LSEG. (n.d.). *LSEG ESG scores*. <https://www.lseg.com/en/data-analytics/sustainable-finance/esg-scores>
- Macesar, A. F. (2025, April 26). *A brief history of ESG*. The Sustainable Agency. <https://thesustainableagency.com/blog/the-history-of-esg/>
- Steyer, T. (2024). *Cheaper, faster, better: How we'll win the climate war*. Spiegel & Grau.
- Sustainable Growth Navigator. (n.d.). *ABCs of ESG frameworks and ratings*. <https://esgnavigator.com/knowledge-hub/esg-ratings-library/abcs-of-esg-ratings-reporting/>
- Sustainalytics. (n.d.). ESG risk ratings. <https://www.sustainalytics.com/esg-ratings>
- Uzsoki, D. (2020). Trends in sustainable investing. In *Sustainable investing: Shaping the future of finance* (pp. 17–21). International Institute for Sustainable Development. <http://www.jstor.org/stable/resrep22000.6>
- Vu, T. N., Lehkonen, H., Junttila, J. P., & Lucey, B. (2025). ESG investment performance and global attention to sustainability. *The North American Journal of Economics and Finance*, 75. <https://www.sciencedirect.com/science/article/pii/S1062940824002122>
- Whelan, T., Atz, U., Van Holt, T., & Clark, C. (2021, February 10). *ESG and financial performance: Uncovering the relationship by aggregating evidence from 1,000 plus studies published between 2015–2020*. NYU Stern Center for Sustainable Business. https://www.stern.nyu.edu/sites/default/files/assets/documents/NYU-RAM_ESG-Paper_2021%20Rev_0.pdf
- Yahoo Finance. (n.d.). Yahoo Finance – Stock market live, quotes, business & finance news. <https://finance.yahoo.com/>

Yoo, S., Keeley, A. R., & Managi, S. (2021). Does sustainability activities performance matter during financial crises? Investigating the case of COVID-19. *Energy Policy*, 155.
<https://www.sciencedirect.com/science/article/pii/S0301421521002007>