

Impact of ESG Ratings on the Performance of S&P 100 Firms

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ABSTRACT

This paper examines the relationship between ESG ratings and the financial performance of S&P 100 firms from 2021 to 2025. This study uses pooled OLS regression on Bloomberg Terminal data, regressing Return on Equity against ESG Score, Net Debt/Equity, and Tobin's Q across 447 firm-year observations from 100 of the United States largest publicly listed companies. ESG Score is positively linked to ROE but not statistically significant ($\beta = 3.740$, $p = 0.268$). Net Debt/Equity ($\beta = 28.899$, $p < 0.001$) and Tobin's Q ($\beta = 4.166$, $p < 0.001$) are both significant. The regression model explains 41.7% of the variance in ROE ($R^2 = 0.4174$, $F = 105.82$). Bloomberg's ESG rating measures how broadly a firm reports on ESG topics, not how it performs on them. No measurable improvement in ROE is found from higher Bloomberg ESG scores in the S&P 100 over this period. Existing literature in this area predominantly uses the S&P 500, Refinitiv or MSCI scores, and data ending before 2021. This paper differs from prior literature in that it uses the S&P 100, Bloomberg's composite, the 2021–2025 period, and ROE rather than ROA.

Keywords: ESG ratings, return on equity, firm performance, S&P 100, pooled OLS, Bloomberg, leverage, Tobin's Q, stakeholder theory

1. Introduction

By 2022, ESG-labelled assets exceeded \$35 trillion globally. Whether firms with higher ESG scores truly perform better financially is one of the most argued questions in corporate finance whilst being one of the least settled. Friede, Busch and Bassen [1] reviewed over 2,000 studies and found around 90% report a non-negative ESG–performance relationship. However, this result covers numerous neutral findings, and the pattern varies based on which market, time period, ESG provider, and performance measure is used.

This paper addresses three gaps that existing studies have not addressed together. ESG ratings lack standardization across providers. Bloomberg, Refinitiv, MSCI, and Sustainalytics all

employ different methods, meaning different agencies would each likely provide different scores to the same firm. Bloomberg's disclosure score specifically rewards the comprehensiveness of firms' reports on ESG rather than their performance, and has been studied less compared to Refinitiv or MSCI data. Existing United States studies predominantly focus on the S&P 500, whilst the S&P 100-the 100 largest and most closely watched American firms-is a distinct sample that hardly gets its own focused analysis. The period 2021-2025, covering the post-COVID recovery, the highest inflation cycle in four decades, and a sharp interest rate cycle, is highly omitted in existing literature.

To address these existing gaps, this paper answers three questions. Does Bloomberg's ESG Score have a statistically significant effect on the ROE of S&P 100 firms? Is leverage, measured through Net Debt/Equity, associated with ROE after controlling for ESG and market valuation? Is market valuation, measured through Tobin's Q, associated with ROE after controlling for ESG score and leverage?

Studies such as Alareeni and Hamdan [2] analyze the S&P 500 utilizing Thomson Reuters ESG data from 2009-2018. Aydoğmuş et al. [3] utilize multi-country Refinitiv data. Neither examines the S&P 100 using Bloomberg's composite post-2020. A substantial body of research also relies on ROA as the performance measure. This paper uses ROE, which directly captures returns to equity shareholders and could be more useful to investors evaluating what a firm earns on the capital they hold.

Section 2 reviews the relevant literature. Section 3 outlines the underlying theoretical framework. Sections 4 through 6 present the hypotheses, data, and methodology. Sections 7 and 8 present and discuss the results. Section 9 concludes the paper.

2. Literature Review

2.1 ESG and Financial Performance: The Broad Evidence

Friede, Busch and Bassen [1] synthesized over 2,000 studies, discovering that around 90% report a non-negative ESG–performance relationship. Although frequently cited, this statistic includes a myriad of neutral results alongside positive ones; the proportion of studies with strictly positive, statistically significant findings is substantially lower. Narula et al. [4] reviewed 198 articles from 2010-2022 and confirmed predominantly positive results on average, but found that studies leveraging Bloomberg data exhibited positive outcomes less consistently than those using Thomson Reuters data. This finding is imperative for this paper. Halid et al. [5] concluded that high-ESG firms tend to exhibit stronger operating performance and reduced firm-specific risk, though these effects vary across settings. Gürsoy and Erbuğa [6] used stock-returns data from the US, UK, and Switzerland between 2007-2011, and found that ESG sub-category scores have

small but significant effects on market performance in limited time windows, with likely non-linear relationships.

2.2 ESG and Performance in US Markets

Alareeni and Hamdan [2] applied panel regression to a sample of S&P 500 firms from 2009-2018. Aggregate ESG disclosure positively affects ROA, ROE, and Tobin's Q. However, when ESG is broken down by component, the Environmental and CSR pillars negatively impact ROA and ROE whilst positively affecting Tobin's Q. These findings imply that ESG investment improves market valuation for firms without necessarily showing up in short-term accounting returns, a pattern relevant to the null ESG result in this paper. Nguyen, Hoang, and Tran [7] used two-stage least squares on 57 S&P 500 non-financial firms from 2018-2020 and found that better ESG practices improve ROA, ROE, and Tobin's Q, with the market valuation effect considerably greater than the accounting return effect. Lee and Koh [8] examined US financial firms using panel fixed effects and concluded composite ESG scores reduce total, idiosyncratic, and systematic risk, with the Social and Governance pillars as the primary drivers. Habib and Mourad [9] used generalised least squares on 406 US firms from 2016-2020 and established a positive relationship between stronger ESG practices and performance. However, the COVID crisis significantly worsened financial results across the sample.

2.3 ESG by Pillar: Disaggregated Evidence

Relying on a single composite score obscures divergent effects at the pillar level. Aydoğmuş et al. [3] observed that while the Social and Governance scores are positively and significantly linked to firm value, the Environmental score enhances profitability rather than being significant for firm value. Lee, Raschke and Krishen [10] observed the gap between agency-assigned ESG pillar weights and equal pillar weights. A larger gap, where the agency score exceeds what balanced weight alternatives would provide, correlates to reduced firm performance. This finding suggests ESG providers may end up rewarding disclosure volume rather than genuine ESG performance. Lee and Koh [8] substantiate this at the pillar level: while Social and Governance reduce both systematic and idiosyncratic risk, the Environmental pillar relates solely to systematic risk.

2.4 ESG in Non-US and Emerging Markets

Evidence outside the US helps expound why the link between ESG and performance varies significantly. Junius et al. [11] evaluated 271 listed firms across four ASEAN countries from 2013-2017 using random-effects panel regression and found ESG performance was positively linked to ROA, ROE, Tobin's Q, and the price-earnings ratio. Tang and Nguyen [12] studied the Vietnam VN100 index from 2017-2023 and found no significant relationship between ESG and

performance, attributing this to short investor horizons, weak regulatory enforcement, and undeveloped ESG adoption. Shobhwani and Lodha [13] analyzed NSE-100 firms in India from 2021-2022 and reported low correlations and insignificant regression results, consistent with the null finding in this paper. Nguyen [14] evaluated firms from the transportation industry using data envelopment analysis combined with OLS regression and found that Environmental and Social scores positively affect business efficiency.

2.5 Research Gap

Most existing studies use the S&P 500, rely on Refinitiv or MSCI ratings, and cover pre-2020 periods. Relatively few studies focus specifically on the S&P 100, use Bloomberg's ESG composite, or examine the post-COVID period from 2021–2025. Although ROA dominates as the performance measure, ROE captures returns to equity shareholders more directly. This paper addresses these gaps by employing pooled OLS regression on 447 complete firm-year observations from the S&P 100 using Bloomberg Terminal data, with ROE as the primary dependent variable.

3. Theoretical Framework

3.1 Stakeholder Theory

This paper is theoretically anchored in Stakeholder Theory, developed by Freeman [15]. The theory posits that firms create value not only by maximising shareholder returns, but by managing relationships with employees, customers, communities, regulators, and the environment. Firms that invest in ESG commit to relationships between stakeholders, thereby mitigating operational risk, strengthening firm reputation, and safeguarding that firms maintain the social licence to operate. The framework predicts that high-ESG firms should outperform low-ESG firms financially over time, since managing stakeholder relationships systematically reduces the costs and risks that impede profitability.

3.2 The ESG–ROE Transmission Mechanism

ESG integration can increase ROE through several channels. Effective ESG management can reduce employee turnover and agency costs, thereby lowering operating expenses and expanding net income relative to the equity base. Additionally, strong ESG performance bolsters customer loyalty to sustain stability and pricing power, whilst simultaneously mitigating the possibility of litigation and regulatory penalties that threaten immense one-period equity losses. Lee and Koh [8] document that firms with superior ESG face lower systematic and idiosyncratic risk, thereby reducing the cost of capital and allowing the same equity base to support more profitable investment.

3.3 The Agency Theory Counterargument

Jensen and Meckling [16] present the counterargument through the Agency Theory. Under this framework, ESG spending that diverges from shareholder interests is a misallocation of resources. Managers who allocate resources towards ESG beyond what maximises firm value effectively transfer wealth from shareholders to other stakeholders, thereby dampening ROE. The mixed empirical results across the literature indicate that neither theory holds across all settings. The null finding for ESG in this paper ($p = 0.268$) fits the interpretation that within the S&P 100 from 2021-2025, neither stakeholder value channel nor the agency cost channel is sufficient to produce a discernible ROE effect.

4. Hypotheses

Three hypotheses arise from the theoretical framework and the literature: one for each independent variable, stated in null and alternative hypothesis form.

Table 1: Research Hypotheses

Hyp.	Null Hypothesis (H_0)	Alternative Hypothesis (H_1)
H1	ESG Score has no statistically significant effect on ROE of S&P 100 firms.	ESG Score has a statistically significant positive effect on ROE of S&P 100 firms.
H2	Net Debt/Equity has no statistically significant effect on ROE.	Net Debt/Equity has a statistically significant positive effect on ROE through the leverage amplification mechanism.
H3	Tobin's Q has no statistically significant effect on ROE.	Tobin's Q has a statistically significant positive effect on ROE, reflecting intangible capital advantages.

The results in Section 7 show: H1 — fail to reject H_0 ($p = 0.268$); H2 — reject H_0 ($p < 0.001$, ***); H3 — reject H_0 ($p < 0.001$, ***).

5. Data and Sample

5.1 Data Source

The dataset was compiled from Bloomberg Terminal, accessed in February 2026. Four variables were collected for each firm-year observation. Return on Equity (ROE), sourced directly from Bloomberg's primary ROE field, is the dependent variable and is defined as net income divided by shareholders' equity, expressed as a percentage. The main independent variable is Bloomberg's ESG Composite Disclosure Score, a metric that runs from 0 to 10 and measures the extent to which a firm reports on ESG topics relative to all Bloomberg-covered firms. The two

control variables are sourced directly through Bloomberg Terminal, which are Net Debt/Equity, taken without conversion, and Tobin's Q, calculated as (Market Capitalisation + Total Debt) / Total Assets.

5.2 Sample Construction

The sample comprises the entire S&P 100 index, representing 100 of the largest publicly listed American firms across multiple sectors. Data were compiled across five annual periods: 2021, 2022, 2023, 2024, and 2025, yielding a maximum possible sample of 500 firm-year observations. Firm-year observations with missing values reported as N/A were excluded from the sample. The final sample comprises 447 firm-year observations, with the 53 excluded rows accounting for 10.6% of the initial population.

5.3 Missing Data

The majority of the missing data were concentrated in a small subset of firms. Boeing (BA) lacks ROE and Net Debt/Equity data across all five years since negative book equity renders ROE mathematically undefined. Similarly, Lowe's (LOW), McDonald's (MCD), Altria (MO), and Philip Morris (PM) each lack reported ROE values across the period for the same reason. GE Vernova (GEV) was spun off from General Electric in 2024 and lacks sufficient historical data. Bloomberg does not report Tobin's Q for Walmart (WMT) across the full sample period. Bloomberg ESG coverage was unavailable for Palantir (PLTR) in 2021, as the company had only recently been listed. These sample exclusions were driven entirely by the data Bloomberg had available rather than active selection bias.

5.4 Descriptive Statistics

Table 2 presents the descriptive statistics for the four variables. Observation counts vary across variables since N/A exclusions differ across fields. The regression analysis is restricted to the sample of 447 firm-year observations containing non-missing data throughout all four variables simultaneously.

Table 2: Descriptive Statistics

Variable	N	Mean	Median	Std Dev	Min	Max
ROE (%)	460	40.49	21.32	105.67	-78.75	1,602.26
ESG Score	494	4.937	5.035	1.142	1.19	7.74

Variable	N	Mean	Median	Std Dev	Min	Max
Net Debt/Equity	461	1.047	0.347	3.448	-2.634	39.020
Tobin's Q	488	3.696	2.665	4.298	0.87	60.76

Note: *N* varies by variable due to Bloomberg N/A observations. The regression uses 447 rows where all four variables are simultaneously not missing. ROE and Net Debt/Equity are strongly right-skewed, driven by outliers including Colgate-Palmolive (ROE up to 1,602%) and Home Depot (ROE up to 1,159%), where negative book equity produces extreme values.

6. Methodology

6.1 Model Specification

The following pooled OLS regression is estimated:

$$ROE_{it} = \alpha + \beta_1(ESG_{it}) + \beta_2(NDE_{it}) + \beta_3(TQ_{it}) + \varepsilon_{it} \quad \dots (1)$$

ROE_{it} is Return on Equity for firm *i* in year *t*, expressed as a percentage. ESG_{it} is the Bloomberg ESG Composite Disclosure Score on a 0 to 10 scale. NDE_{it} is Net Debt/Equity as reported by Bloomberg. TQ_{it} is Tobin's Q, defined as (Market Capitalisation + Total Debt) / Total Assets. ε_{it} is the error term.

6.2 Variable Definitions and Justification

Table 3 summarises variable definitions and the justification from the literature.

Table 3: Variable Definitions and Literature Justification

Variable	Role	Measure	Justification
ROE (%)	Dependent	Net Income / Equity	Captures returns to shareholders directly. Used by Alareeni and Hamdan [2] and Nguyen et al. [7].
ESG Score	Independent	Bloomberg 0–10 composite	Primary variable of interest. Bloomberg ESG used by Narula et al. [4]; disclosure-based nature noted by Halid et al. [5].
Net Debt/Equity	Control	(Total Debt – Cash) / Equity	Standard leverage control. Lee and Koh [8] show ESG moderates the risk contribution of leverage.
Tobin's Q	Control	(Mkt Cap + Debt) / Assets	Growth opportunities proxy. Used by Aydoğmuş et al. [3] and Junius et al. [11].

6.3 Estimation Method

Regression coefficients were estimated using the matrix formula $\beta = (X'X)^{-1}X'Y$, built in Microsoft Excel using the MMULT and MINVERSE functions. Standard errors were derived from the diagonal of $\sigma^2(X'X)^{-1}$. Pooled OLS treats all 447 firm-year observations as independent, estimating a single set of coefficients without controlling for firm-level or year-level fixed effects.

This specification represents the standard starting point in this literature before running a Hausman test to choose between fixed and random effects [2, 11]. The primary drawback is that pooled OLS fails to account for unobserved firm-level characteristics. Omitting firm fixed effects, the ESG coefficient may be confounded by time-invariant firm features correlated with both ESG scores and ROE. This is discussed further in the limitations section.

6.4 Statistical Inference

T-statistics are computed as the coefficient divided by its standard error. Two-tailed p-values are derived from the t-distribution with 443 degrees of freedom ($N - K = 447 - 4$). Significance thresholds follow standard convention: *** for $p < 0.01$, ** for $p < 0.05$, and * for $p < 0.10$. 95% confidence intervals are the coefficient $\pm 1.96 \times$ the standard error.

6.5 Handling Missing Data

Firm-year observations with missing Bloomberg data for one or more variables are excluded, reducing the usable sample from 500 to 447 firm-year observations. This is the listwise deletion methodology, which aligns with the data-clearing practices used in the reference papers.

7. Results

7.1 Regression Equation

Based on 447 complete firm-year observations, the estimated regression equation is:

$$\text{ROE (\%)} = -17.318 + 3.740 (\text{ESG Score}) + 28.899 (\text{Net Debt/Equity}) + 4.166 (\text{Tobin's Q}) + \varepsilon \quad \dots (2)$$

7.2 Regression Results

Table 4 shows the coefficient estimates, standard errors, t-statistics, p-values, significance indicators, and 95% confidence intervals.

Table 4: OLS Regression Results — Dependent Variable: ROE (%)

Variable	β	Std Error	T-Stat	P-Value	Sig.	95% CI Lower	95% CI Upper
Intercept	-17.318	17.539	-0.987	0.3240	—	-51.694	17.058
ESG Score	3.740	3.372	1.109	0.2680	—	-2.869	10.349
Net Debt/Equity	28.899	1.665	17.355	<0.001	***	25.635	32.163
Tobin's Q	4.166	0.876	4.754	<0.001	***	2.449	5.883

Significance: *** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$ — = not significant at any conventional level

7.3 Model Fit Statistics

Table 5: Model Fit Statistics

Statistic	Value
N (complete firm-year observations)	447
R ²	0.4174
Adjusted R ²	0.4134
F-Statistic	105.82
σ^2 (Residual Variance)	6,719.04

7.4 Interpretation

ESG Score exhibits a positive coefficient of 3.740. A one-unit increase in the Bloomberg ESG composite yields a 3.74 percentage point increase in ROE, holding Net Debt/Equity and Tobin's Q constant. However, this relationship is not statistically significant ($t = 1.109$, $p = 0.268$). The 95% confidence interval ranges from -2.869 to 10.349, crossing zero. This implies that the estimated coefficient encompasses a wide range of possible values, being anywhere from slightly negative to moderately positive. H1 cannot be rejected at the 10%, 5%, or 1% level.

Net Debt/Equity emerges as the strongest predictor of ROE in this model. The coefficient is 28.899 ($t = 17.355$, $p < 0.001$). Holding other variables constant, a one-unit increase in Net

Debt/Equity is associated with a 28.90 percentage-point increase in ROE. This is the leverage amplification effect: firms with higher leverage relative to equity operate on a smaller equity base, meaning the same level of net income produces a higher ROE. Both the direction and magnitude of this coefficient align with the theory. H2 is rejected.

Tobin's Q is significant ($\beta = 4.166$, $t = 4.754$, $p < 0.001$). With ESG and leverage held constant, a one-unit increase is associated with a 4.17 percentage point increase in ROE. Firms possessing higher market valuations relative to their asset base tend to generate stronger equity returns. This finding is consistent with Tobin's Q capturing competitive positioning and intangible capital advantages that drive both market valuation and profitability. H3 is rejected.

The intercept at -17.318 is not significant ($p = 0.324$). A firm with an ESG score of zero, zero net debt/equity, and a Tobin's Q of zero does not exist in practice, meaning the intercept carries no economic meaning.

7.5 Model Fit and Explanatory Power

$R^2 = 0.4174$. The regression model accounts for 41.7% of the variance in ROE across 447 firm-year observations. An adjusted R^2 of 0.4134 verifies that model overfitting is not a significant issue. For a three-variable panel regression covering 100 firms across utilities, technology, financials, and other sectors over five years, an R^2 above 40% is a substantial result. The F-statistic of 105.82 confirms the three independent variables jointly explain a substantial share of variation in ROE. Residual variance of 6,719.04 indicates that a major portion of the variation in ROE remains unexplained, as expected, since firms' profitability also depends on macroeconomic conditions, industry dynamics, management decisions, and firm-specific events not captured by this model.

8. Discussion

8.1 The ESG Result in Context

ESG Score is not significant ($p = 0.268$), so H1 cannot be rejected. This finding aligns with what Narula et al. [4] found: studies using Bloomberg disclosure scores produced positive results with less consistency than studies using Thomson Reuters or MSCI ratings. Bloomberg's ESG composite rewards firms based on how comprehensive the report on ESG is rather than assessing sustainability performance. A firm that publishes detailed reports across every ESG category scores highly, irrespective of whether their reports reflect genuine sustainability performance.

Shobhwani and Lodha [13] found no significant relationship between ESG risk scores and ROE, ROA, or Tobin's Q for NSE-100 firms in India. Tang and Nguyen [12] found the same null result

for VN100 firms in Vietnam. The null finding holds even in a developed-market, large-cap sample: Bloomberg ESG disclosure scores do not yield observable ROE gains once leverage and market valuation are controlled for.

Alareeni and Hamdan [2] provide further nuance to this issue. Their study of the S&P 500 found that while aggregate ESG disclosure positively affects Tobin's Q, the Environmental and CSR components exhibit a negative relationship with ROA and ROE. ESG investment may enhance how markets value a firm without showing up in short-term accounting returns, which remains consistent with the null finding observed in this study.

8.2 The Leverage Result in Context

Net Debt/Equity is highly significant ($\beta = 28.899$, $p < 0.001$). This largely reflects an accounting identity rather than genuine performance improvement: higher leverage amplifies ROE mechanically by contracting the equity base. Lee and Koh [8] provide the relevant counterpoint that ESG-strong firms face lower systematic and idiosyncratic risk, and ESG moderates the risk of leverage. Without strong ESG practices, highly levered firms face amplified risk exposure. The leverage coefficient should not be interpreted as evidence that increasing leverage is an optimal strategy for enhancing ROE.

8.3 The Tobin's Q Result in Context

Tobin's Q is significant ($\beta = 4.166$, $p < 0.001$). Aydoğmuş et al. [3] demonstrated that ESG composite scores are positively associated with firm value, as measured by Tobin's Q. In that study, Tobin's Q serves as the outcome variable; here it is a predictor, capturing the same underlying quality premium. Nguyen et al. [7] highlighted that the effect of the ESG- Tobin's Q relationship is considerably larger than the ESG–ROA or ESG–ROE relationship. Market valuation and accounting returns represent distinct channels through which ESG can influence firm performance, and these findings reflect that distinction.

8.4 Connecting Back to Theory

The null ESG result means that, for the S&P 100 from 2021 to 2025, Bloomberg ESG disclosure scores fail to translate into direct improvements in ROE. This finding does not clearly support Stakeholder Theory's prediction of ESG-driven profitability, nor Agency Theory's prediction of value destruction from ESG spending. These findings corroborate the view that disclosure-based scores reflect reporting activity rather than how it performs, and that reporting volume alone fails to generate a profitability premium. Halid et al. [5] document these inconsistent findings across the wider literature.

9. Conclusion

9.1 Summary of Findings

This paper analyzed the impact of ESG ratings on the financial performance of S&P 100 firms from 2021-2025. ESG Score is positively linked to ROE but not statistically significant ($\beta = 3.740$, $p = 0.268$), meaning H1 cannot be rejected. Net Debt/Equity is highly significant and positive ($\beta = 28.899$, $p < 0.001$), rejecting H2 and confirming the leverage amplification effect. Tobin's Q is highly significant and positive ($\beta = 4.166$, $p < 0.001$), rejecting H3 and confirming that market valuation is a strong predictor of accounting returns. The model explains 41.7% of the variance in ROE across 447 firm-year observations ($R^2 = 0.4174$, $F = 105.82$, Adjusted $R^2 = 0.4134$).

9.2 Practical Implications

Bloomberg ESG disclosure scores alone lack sufficient power in predicting ROE outperformance in the S&P 100. Leverage and market positioning are far stronger predictors of short-term accounting returns. Firms should refrain from presenting ESG investment as a short-term driver for ROE expansion. Nguyen et al. [7] found the influence of ESG on Tobin's Q exceeds the effect on ROE, suggesting that ESG may improve market valuation before it shows up in accounting returns; thus, the time horizon matters. For policymakers, disclosure-based scoring may fail to capture the drivers of financial outperformance; outcome-based ESG metrics would make the link to financial performance more measurable and testable.

9.3 Limitations

Pooled OLS fails to account for unobserved firm-level characteristics. Without firm fixed effects, the ESG coefficient may be confounded by time-invariant firm traits that correlate with both ESG scores and ROE; therefore, a fixed-effects estimator the necessary next step. Bloomberg's ESG composite measures disclosure breadth, rather than sustainability outcomes, suggesting that empirical results may differ substantially with alternative providers such as Refinitiv or MSCI scores. The exclusion of 53 firm-year observations may induce non-random sample selection, as negative book equity firms are structurally different from the rest of the sample and account for a significant share of the excluded rows.

9.4 Future Research

The most immediate priority is a fixed-effects panel regression on this same dataset using Python or Stata, to absorb firm-level heterogeneity and isolate a cleaner within-firm estimate of the ESG–ROE relationship. Disaggregating the Bloomberg ESG composite into its Environmental,

Social, and Governance pillars is also warranted, as the literature consistently finds divergent effects at the pillar level. Expanding the sample to the S&P 500 using the same Bloomberg methodology would determine whether the null ESG result generalises beyond the top 100 firms. Comparing Bloomberg to Refinitiv ESG scores on the same S&P 100 sample would test the rating-provider sensitivity that Narula et al. [4] identify as a key cause of divergent results in this field.

References

- [1] Friede G., Busch T., Bassen A. ESG and Financial Performance: Aggregated Evidence from More Than 2000 Empirical Studies. *Journal of Sustainable Finance & Investment*, 5(4), 2015, 210–233. <https://doi.org/10.1080/20430795.2015.1118917>
- [2] Alareeni B. A., Hamdan A. ESG Impact on Performance of US S&P 500-Listed Firms. *Corporate Governance: The International Journal of Business in Society*, 20(7), 2020, 1409–1428. <https://doi.org/10.1108/CG-06-2020-0258>
- [3] Aydoğmuş M., Gülay G., Ergun K. Impact of ESG Performance on Firm Value and Profitability. *Borsa İstanbul Review*, 22(S2), 2022, S119–S127. <https://doi.org/10.1016/j.bir.2022.11.006>
- [4] Narula S., Rao P., Kumar S., Paltrinieri A. ESG Investing and Firm Performance: Retrospections of Past and Reflections of Future. *Corporate Social Responsibility and Environmental Management*, 32(1), 2025, 1096–1121. <https://doi.org/10.1002/csr.2982>
- [5] Halid N., Rahman R. A., Mahmud M. H., Mansor M. F., Wahab S. N. A. A Literature Review on ESG Score and Its Impact on Firm Performance. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 13(1), 2023, 272–282.
- [6] Gürsoy G., Erbuğa Ç. ESG Impact on Market Performance of Firms: International Evidence. *Management International*, 19(2), 2015. <https://www.erudit.org/en/journals/mi/2015-v19-n2-mi01857/1030386ar/>
- [7] Nguyen T. T. H., Hoang T. G., Tran H. G. Help or Hurt? The Impact of ESG on Firm Performance in S&P 500 Non-Financial Firms. *Australasian Accounting, Business and Finance Journal*, 16(2), 2022, 91–102. <https://doi.org/10.14453/aabfj.v16i2.7>
- [8] Lee C. C., Koh H. ESG Performance and Firm Risk in the U.S. Financial Firms. *Review of Financial Economics*, 42, 2024, 328–344. <https://doi.org/10.1002/rfe.1208>

- [9] Habib A., Mourad N. The Influence of ESG Practices on US Firms' Performance: Evidence from the Coronavirus Crisis. *Journal of the Knowledge Economy*, 15(1), 2024, 2549–2570. <https://doi.org/10.1007/s13132-023-01278-w>
- [10] Lee M. T., Raschke R. L., Krishen A. S. Understanding ESG Scores and Firm Performance: Are High-Performing Firms E, S, and G-Balanced? *Technological Forecasting and Social Change*, 195, 2023, 122779. <https://doi.org/10.1016/j.techfore.2023.122779>
- [11] Junius D., Adisurjo A., Rijanto Y. A., Adelina Y. E. The Impact of ESG Performance on Firm Performance and Market Value. *Jurnal Aplikasi Akuntansi*, 5(1), 2020, 21–41. <https://doi.org/10.29303/jaa.v5i1.84>
- [12] Tang H., Nguyen V. T. Exploring the Relationship Between ESG Practices and Financial Performance of Vietnamese Companies. *International Journal of Analysis and Applications*, 22, 2024, 214. <https://doi.org/10.28924/2291-8639-22-2024-214>
- [13] Shobhwani K., Lodha S. Impact of ESG Risk Scores on Firm Performance: An Empirical Analysis of NSE-100 Companies. *Asia-Pacific Journal of Management Research and Innovation*, 19(1), 2023, 7–18. <https://doi.org/10.1177/2319510X231170910>
- [14] Nguyen T. T. M. The Effects of ESG Combined Score on Business Performance of Enterprises in the Transportation Industry. *Sustainability*, 14(14), 2022, 8354. <https://doi.org/10.3390/su14148354>
- [15] Freeman R. E. *Strategic Management: A Stakeholder Approach*. Pitman, 1984.
- [16] Jensen M. C., Meckling W. H. Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3(4), 1976, 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)