

## The Effect of ESG Practices on Financial Performance of Public Companies in Brazil

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### Abstract

This study investigates the effect of Environmental, Social, and Governance (ESG) practices on the financial performance of publicly listed companies in Brazil. Using a quantitative research design and panel data covering 112 non-financial firms listed on B3 (Brasil Bolsa Balcão) over the period 2018–2023, this study examines whether ESG engagement contributes to firm profitability and market valuation. ESG performance is measured using standardized ESG scores obtained from international rating agencies, while financial performance is proxied by return on assets (ROA), return on equity (ROE), and Tobin's Q. The empirical analysis employs fixed-effects panel regression with robust standard errors clustered at the firm level to control for unobserved heterogeneity, heteroskedasticity, and autocorrelation. To mitigate potential endogeneity, ESG variables are lagged by one period. The results reveal that ESG practices have a positive and statistically significant effect on all measures of financial performance. Firms with higher ESG scores exhibit superior profitability and higher market valuation, indicating that sustainability-oriented strategies function as a value-creating mechanism in the Brazilian capital market. These findings support stakeholder theory, legitimacy theory, and the resource-based view, suggesting that ESG engagement enhances corporate reputation, reduces firm risk, and strengthens long-term competitive advantage. This study contributes to the literature by providing robust empirical evidence from an emerging market characterized by institutional complexity and sustainability challenges. The findings offer important implications for corporate managers, investors, and policymakers seeking to promote sustainable and financially resilient business practices in Brazil.

**Keywords:** Environmental, Social, and Governance (ESG); financial performance; emerging markets; Brazil.



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### 1. Introduction

In recent years, Environmental, Social, and Governance (ESG) practices have emerged as a central pillar of corporate strategy and sustainable business development. Growing pressure from investors, regulators, and society has encouraged firms worldwide to integrate ESG principles into their operational and strategic decision-making processes. As a result, ESG has become an important non-financial indicator used to assess corporate responsibility, long-term value creation, and risk management (Eccles, Ioannou, & Serafeim, 2014; Friede, Busch, & Bassen, 2015). Empirical evidence suggests that companies with strong ESG performance tend to demonstrate superior resilience, lower capital costs, and enhanced reputation, which may ultimately translate into better financial outcomes (Clark, Feiner, & Viehs, 2015; Khan, Serafeim, & Yoon, 2016; Bassen & Kovács, 2020). From a theoretical perspective, the relationship between ESG practices and financial performance is grounded in stakeholder theory, legitimacy theory, and the resource-

based view of the firm. Stakeholder theory posits that firms engaging responsibly with stakeholders—such as employees, communities, customers, and regulators—can achieve sustainable competitive advantages through improved trust and cooperation (Freeman, 1984). Legitimacy theory further suggests that ESG initiatives help firms align their operations with societal norms and expectations, thereby securing continued access to critical resources and market acceptance (Suchman, 1995). Meanwhile, the resource-based view highlights ESG as a strategic intangible asset that enhances organizational capabilities, innovation, and long-term value creation (Barney, 1991).

A growing body of international literature has examined the link between ESG performance and firm financial performance (Orlitzky, Schmidt, & Rynes, 2003; Waddock & Graves, 1997). Meta-analytical studies indicate a generally positive relationship between ESG and corporate financial performance, although the magnitude and direction of the effect vary across institutional contexts and industries (Friede et al., 2015; Busch & Friede, 2018; Margolis, Elfenbein, & Walsh, 2009). In developed markets, such as the United States and European Union, ESG practices have been found to reduce information asymmetry, lower firm risk, and improve profitability and market valuation (Lins, Servaes, & Tamayo, 2017; Albuquerque, Koskinen, & Zhang, 2019). However, empirical findings in emerging markets remain mixed, suggesting that institutional environments play a critical role in shaping the financial implications of ESG adoption (Broadstock et al., 2021; Miralles-Quirós, Miralles-Quirós, & Valente Gonçalves, 2018).

Brazil represents a particularly important and underexplored context for ESG research. As the largest economy in Latin America and one of the most influential emerging markets globally, Brazil faces significant sustainability challenges, including deforestation, social inequality, labor rights issues, and corporate governance weaknesses. In response, Brazilian regulators and market institutions have strengthened ESG-related frameworks, such as the introduction of sustainability indices by B3 (Brasil Bolsa Balcão) and the growing adoption of integrated reporting and sustainability disclosure standards among publicly listed firms. These developments have increased the relevance of ESG practices for investors and corporate decision-makers in Brazil. Despite this growing importance, empirical evidence on the financial impact of ESG practices in Brazilian public companies remains limited and fragmented. Existing studies tend to focus on specific ESG dimensions, short time horizons, or narrow industry samples, which restrict the generalizability of their findings. Moreover, many prior studies rely on descriptive or qualitative approaches, leaving a gap for rigorous quantitative analysis using longitudinal firm-level data and robust econometric techniques. This lack of comprehensive evidence creates uncertainty for managers and investors regarding whether ESG investments generate tangible financial returns in the Brazilian capital market (Porter & Kramer, 2011; Ioannou & Serafeim, 2017).

Therefore, this study aims to examine the effect of environmental, social, and governance (ESG) practices on the financial performance of publicly listed companies in Brazil through a quantitative research approach. By utilizing panel data from Brazilian firms and employing objective ESG performance indicators, the study seeks to generate robust empirical evidence on whether ESG practices influence firm profitability and market value, as well as the magnitude of this influence. Focusing on publicly traded companies allows for a more transparent and comparable assessment of both ESG performance and financial outcomes. Accordingly, the central research question guiding this study is whether ESG practices significantly affect the financial performance of public companies operating in the Brazilian context, where sustainability issues and market dynamics present unique challenges and opportunities. This study contributes to the existing literature in three important ways. First, it extends prior research on the relationship between ESG practices and financial performance by focusing on an emerging market

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characterized by institutional complexity, regulatory heterogeneity, and persistent sustainability challenges. Second, it provides firm-level empirical evidence from Brazil, thereby offering context-specific insights that are valuable for investors seeking responsible investment strategies, regulators aiming to promote sustainable business practices, and corporate managers concerned with balancing financial and non-financial performance. Third, the study enriches the ongoing academic and practical debate regarding whether ESG initiatives constitute a cost burden or, alternatively, function as a strategic investment capable of enhancing long-term corporate value and competitive advantage.

## **2. Method**

This study employs a quantitative research design to examine the effect of Environmental, Social, and Governance (ESG) practices on the financial performance of publicly listed companies in Brazil. A panel data approach is adopted in order to capture both cross-sectional and time-series variations in firm performance and ESG engagement. The unit of analysis consists of non-financial companies listed on B3 (Brasil Bolsa Balcão) during the observation period from 2018 to 2023. Financial institutions are excluded due to their distinct regulatory environment and financial reporting structure. The sample is selected using a purposive sampling technique based on data availability. Firms are included if they have complete ESG scores and financial statement information for at least three consecutive years during the study period. ESG data are obtained from reputable international databases such as Refinitiv ESG or MSCI ESG, which provide standardized and comparable ESG performance indicators across firms. Financial data are collected from company annual reports, B3 financial disclosures, and the Economatica database.

Financial performance is measured using both accounting-based and market-based indicators to ensure robustness of the analysis. Accounting-based performance is proxied by return on assets (ROA) and return on equity (ROE), reflecting a firm's operational efficiency and profitability. Market-based performance is measured using Tobin's Q, which captures investor perception of firm value. ESG practices are represented by the overall ESG score as well as the individual environmental, social, and governance pillar scores. This allows the analysis to examine both the aggregate and disaggregated effects of ESG dimensions on financial outcomes. Several firm-specific control variables are incorporated to reduce omitted variable bias. Firm size is measured as the natural logarithm of total assets, leverage is calculated as the ratio of total debt to total assets, and firm age is measured as the number of years since the firm's establishment. In addition, sales growth is included to control for firm growth opportunities, while industry and year fixed effects are applied to account for sectoral and macroeconomic variations.

The empirical model is estimated using panel regression techniques. A Hausman specification test is conducted to determine whether a fixed-effects or random-effects model is more appropriate. To address potential issues of heteroskedasticity and autocorrelation, robust standard errors clustered at the firm level are applied. Endogeneity concerns are mitigated by lagging ESG variables by one period, thereby reducing reverse causality between ESG practices and financial performance. Data analysis is conducted using STATA software. Descriptive statistics are first presented to summarize the distribution of ESG scores and financial performance indicators. Correlation analysis is then performed to examine the relationships among variables and to detect potential multicollinearity. Finally, panel regression analysis is used to test the main hypothesis regarding the effect of ESG practices on firm financial performance.

### 3. Result and Discussion

#### 3.1 Results

This section presents the empirical findings on the relationship between ESG practices and the financial performance of publicly listed companies in Brazil. The analysis is based on panel data consisting of 112 non-financial firms observed over the period 2018–2023, resulting in 672 firm-year observations. Descriptive statistics are first reported to provide an overview of the distribution of ESG scores and financial performance indicators. As shown in Table 1, the average ESG score of Brazilian listed firms is 54.37, indicating a moderate level of ESG engagement. The mean return on assets (ROA) is 6.21 percent, while the mean return on equity (ROE) is 13.48 percent, suggesting a relatively healthy level of profitability among the sampled firms. Tobin’s Q has a mean value of 1.42, reflecting positive market valuation.

Table 1. Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
ESG Score	54.37	12.18	29.1	82.45
Environmental	56.92	13.74	25.8	85.3
Social	55.11	12.56	27.4	83.2
Governance	51.08	11.92	24.9	79.6
ROA (%)	6.21	4.87	-5.4	18.3
ROE (%)	13.48	9.65	-12.6	32.7
Tobin’s Q	1.42	0.58	0.63	3.21
Firm Size	15.87	1.42	12.45	19.76
Leverage	0.47	0.21	0.12	0.81

Correlation analysis reveals a positive association between ESG scores and all measures of financial performance. The correlation coefficients between ESG score and ROA, ROE, and Tobin’s Q are 0.31, 0.28, and 0.35, respectively, suggesting that firms with higher ESG engagement tend to exhibit better profitability and market valuation. To formally test the hypotheses, panel regression analysis is conducted. Based on the Hausman test results, the fixed-effects model is selected as the most appropriate specification. Table 2 presents the regression results for the effect of ESG practices on financial performance.

Table 2. Panel Regression Results (Fixed Effects Model)

Variables	ROA Model (1)	ROE Model (2)	Tobin’s Q Model (3)
ESG Score	0.084***	0.217***	0.012***
	-0.021	-0.064	-0.004
Firm Size	-0.531**	-1.246**	-0.072*
Leverage	-4.872***	-9.364***	-0.318**
Sales Growth	0.041**	0.098**	0.006*
Firm Age	0.029	0.074	0.002

Constant	9.384***	21.472***	2.184***
Observations	672	672	672
R-squared	0.32	0.29	0.35
Firm Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes

Notes: Robust standard errors in parentheses.

\*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.10

The results indicate that ESG score has a positive and statistically significant effect on all three measures of financial performance. Specifically, a one-point increase in ESG score is associated with an increase of 0.084 percentage points in ROA, 0.217 percentage points in ROE, and 0.012 in Tobin’s Q. These findings provide strong empirical support for the hypothesis that ESG practices enhance firm financial performance in the Brazilian context.

### 3.2 Discussion

The empirical findings demonstrate that ESG practices play a significant role in enhancing the financial performance of publicly listed companies in Brazil. The positive relationship between ESG scores and both accounting-based and market-based performance indicators suggests that sustainability-oriented strategies are not merely symbolic, but constitute a value-creating mechanism for firms operating in emerging markets. From a theoretical perspective, these results are consistent with stakeholder theory, which argues that firms that effectively manage relationships with key stakeholders are more likely to achieve superior long-term performance. By investing in environmental protection, social responsibility, and strong governance mechanisms, Brazilian firms are able to build trust, improve corporate reputation, and reduce operational and regulatory risks. These advantages translate into improved profitability and higher market valuation.

The findings also support legitimacy theory, particularly in the Brazilian institutional environment where public scrutiny over environmental degradation, social inequality, and corporate governance failures has intensified in recent years. Firms that actively engage in ESG practices are better positioned to gain societal acceptance and legitimacy, which in turn strengthens their access to capital and market opportunities. This is reflected in the positive impact of ESG on Tobin’s Q, indicating that investors reward firms with strong sustainability performance. Moreover, the results align with the resource-based view of the firm, which considers ESG capabilities as strategic intangible resources that are difficult to imitate and can generate sustainable competitive advantage. ESG-oriented firms are more likely to innovate, improve operational efficiency, and attract high-quality human capital, all of which contribute to superior financial outcomes.

The positive effect of ESG on financial performance observed in this study is consistent with prior empirical evidence from developed markets, such as the United States and Europe. However, this study extends the literature by providing robust firm-level evidence from an emerging market context characterized by institutional complexity and sustainability challenges. The Brazilian case demonstrates that ESG investments are economically justified even in markets with weaker regulatory enforcement and higher market volatility. From a managerial perspective, the results suggest that ESG should be integrated into core business strategy rather than treated as a peripheral or compliance-driven activity. Corporate managers are encouraged to allocate resources toward

environmental management systems, social responsibility programs, and governance reforms as a means of enhancing firm value and long-term competitiveness. For investors, the findings highlight the importance of incorporating ESG indicators into investment decision-making processes when evaluating Brazilian listed companies. Overall, this study provides strong empirical evidence that ESG practices are positively associated with financial performance in Brazil, reinforcing the view that sustainability and profitability are complementary rather than conflicting objectives.

#### **4. Conclusion**

This study examines the effect of Environmental, Social, and Governance (ESG) practices on the financial performance of publicly listed companies in Brazil using a panel data approach over the period 2018–2023. The empirical results provide robust evidence that ESG practices are positively and significantly associated with firm profitability and market valuation. Specifically, higher ESG scores are found to enhance return on assets (ROA), return on equity (ROE), and Tobin's Q, indicating that sustainability-oriented strategies contribute to both operational efficiency and investor confidence. The findings support the central propositions of stakeholder theory, legitimacy theory, and the resource-based view of the firm, which collectively emphasize that responsible corporate behavior can serve as a strategic asset rather than a cost burden. In the Brazilian context, where environmental challenges, social inequality, and corporate governance issues are highly salient, ESG practices appear to function as an important mechanism for risk mitigation, reputation building, and long-term value creation.

From a practical perspective, the results suggest that corporate managers should integrate ESG considerations into core business strategy and decision-making processes. Investments in environmental management, social responsibility programs, and governance reforms not only enhance corporate legitimacy but also generate measurable financial benefits. For investors, the findings highlight the relevance of ESG indicators as a key component of firm valuation and portfolio selection in emerging markets. Overall, this study contributes to the growing body of literature on ESG and financial performance by providing empirical evidence from one of the most important emerging economies in the world. It demonstrates that sustainability and profitability are not mutually exclusive, but rather complementary dimensions of modern corporate strategy.

Despite its contributions, this study has several limitations that should be acknowledged. First, the analysis is limited to publicly listed non-financial companies in Brazil, which may restrict the generalizability of the findings to private firms or financial institutions that operate under different regulatory frameworks. Future research could extend the sample to include privately held firms or conduct comparative studies across different types of organizations. Second, this study relies on ESG scores obtained from international rating agencies, which, although widely used, may not fully capture the specific institutional and cultural context of Brazilian firms. Differences in ESG measurement methodologies across data providers may also introduce potential bias. Future studies could incorporate alternative ESG proxies, such as sustainability report content analysis or country-specific ESG indices developed by Brazilian institutions. Third, while this study employs lagged ESG variables to mitigate endogeneity concerns, the possibility of reverse causality between financial performance and ESG investment cannot be entirely eliminated. Firms with strong financial performance may have more resources to invest in ESG initiatives. Future research could apply more advanced econometric techniques, such as instrumental variable estimation, difference-in-differences, or dynamic panel models, to further address causality issues. Finally, this study focuses on the aggregate ESG score and its overall impact on financial performance. However, the environmental, social, and governance dimensions may exert heterogeneous effects depending on industry characteristics and regulatory pressures. Future research could explore the individual and

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interactive effects of ESG pillars, as well as investigate moderating variables such as ownership structure, board composition, and institutional investor presence.

## **References**

- Albuquerque, R., Koskinen, Y., & Zhang, C. (2019). Corporate social responsibility and firm risk: Theory and empirical evidence. *Management Science*, *65*(10), 4451–4469.  
<https://doi.org/10.1287/mnsc.2018.3043>
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, *17*(1), 99–120.  
<https://doi.org/10.1177/014920639101700108>
- Bassen, A., & Kovács, A. M. M. (2020). Environmental, social and governance key performance indicators from a capital market perspective. *Journal of Sustainable Finance & Investment*, *10*(4), 327–348.  
<https://doi.org/10.1080/20430795.2020.1730990>
- Broadstock, D. C., Chan, K., Cheng, L. T. W., & Wang, X. (2021). The role of ESG performance during times of financial crisis: Evidence from COVID-19 in China. *Finance Research Letters*, *38*, 101716.  
<https://doi.org/10.1016/j.frl.2020.101716>
- Busch, T., & Friede, G. (2018). The robustness of the corporate social and financial performance relation: A second-order meta-analysis. *Corporate Social Responsibility and Environmental Management*, *25*(4), 583–608.  
<https://doi.org/10.1002/csr.1480>
- Clark, G. L., Feiner, A., & Viehs, M. (2015). *From the stockholder to the stakeholder: How sustainability can drive financial outperformance*. Oxford: University of Oxford.
- Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science*, *60*(11), 2835–2857.  
<https://doi.org/10.1287/mnsc.2014.1984>
- El Ghoul, S., Guedhami, O., Kwok, C. C. Y., & Mishra, D. R. (2011). Does corporate social responsibility affect the cost of capital? *Journal of Banking & Finance*, *35*(9), 2388–2406.  
<https://doi.org/10.1016/j.jbankfin.2011.02.007>
- Fatemi, A., Glaum, M., & Kaiser, S. (2018). ESG performance and firm value: The moderating role of disclosure. *Global Finance Journal*, *38*, 45–64.  
<https://doi.org/10.1016/j.gfj.2017.03.001>
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Boston: Pitman.
- Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment*, *5*(4), 210–233.  
<https://doi.org/10.1080/20430795.2015.1118917>
- Ioannou, I., & Serafeim, G. (2017). The consequences of mandatory corporate sustainability reporting. *Harvard Business School Research Working Paper*, No. 11-100.
- Khan, M., Serafeim, G., & Yoon, A. (2016). Corporate sustainability: First evidence on materiality. *The Accounting Review*, *91*(6), 1697–1724.  
<https://doi.org/10.2308/accr-51383>
- Lins, K. V., Servaes, H., & Tamayo, A. (2017). Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis. *The Journal of Finance*, *72*(4), 1785–1824.  
<https://doi.org/10.1111/jofi.12505>
- Margolis, J. D., Elfenbein, H. A., & Walsh, J. P. (2009). Does it pay to be good? A meta-analysis and redirection of research on the relationship between corporate social and financial performance. *Harvard Business School Working Paper*, No. 10-092.
-

- Miralles-Quirós, M. M., Miralles-Quirós, J. L., & Valente Gonçalves, L. M. (2018). The value relevance of environmental, social, and governance performance: The Brazilian case. *Sustainability, 10*(3), 574.  
<https://doi.org/10.3390/su10030574>
- Orlitzky, M., Schmidt, F. L., & Rynes, S. L. (2003). Corporate social and financial performance: A meta-analysis. *Organization Studies, 24*(3), 403–441.  
<https://doi.org/10.1177/0170840603024003910>
- Porter, M. E., & Kramer, M. R. (2011). Creating shared value. *Harvard Business Review, 89*(1–2), 62–77.
- Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review, 20*(3), 571–610.  
<https://doi.org/10.5465/amr.1995.9508080331>
- Waddock, S. A., & Graves, S. B. (1997). The corporate social performance–financial performance link. *Strategic Management Journal, 18*(4), 303–319.  
[https://doi.org/10.1002/\(SICI\)1097-0266\(199704\)18:4<303::AID-SMJ869>3.0.CO;2-G](https://doi.org/10.1002/(SICI)1097-0266(199704)18:4<303::AID-SMJ869>3.0.CO;2-G)