



NEXUS BETWEEN ESG RATINGS AND FINANCIAL PERFORMANCE

ESG REYTINGLARI VA KORPORATIV MOLIYAVIY NATIJALAR O'RTASIDAGI BOG'LIQLIK

**¹Yakubov Jakhongir
Uktamovich**

¹Assistant teacher at Tashkent State University of Economics

Annotation
Annotatsiya

Eng. - The objective of this article is to establish a connection between a company's financial success and its efforts in environmental, social, and governance matters. The examination takes into account both the collective and individual aspects of ESG to evaluate how they impact the financial performance of corporations. The study used data from S&P 1500 index firms spanning from 2010 to 2021. To assess the correlation between ESG scores and financial performance metrics (Tobin's and ROA), a fixed-effect regression model estimator was employed based on information from the Thompson Reuters Refinitiv database. The findings of the study indicate a considerable beneficial correlation between ESG rating and Tobin's Q, an indicator of financial performance based on market value. When examined separately, the social pillar score had a significant positive influence on financial performance, whereas the environmental and governance pillars demonstrated moderate and negligible relationships. The research findings will contribute to improving understanding of the effects of investments in corporate sustainability. It provides valuable analysis for corporate and government bodies in optimizing the effects of their sustainability efforts. The results of the study will aid in enhancing comprehension of the impact of investments in corporate sustainability, delivering valuable insights for corporate and governmental organizations to enhance the effectiveness of their sustainability initiatives.

Uzb. - Ushbu maqolaning maqsadi kompaniyaning moliyaviy muvaffaqiyati bilan uning atrof-muhit, ijtimoiy va boshqaruv masalalariga bo'lgan sa'y-harakatlari o'rtasida bog'liqlikni o'rnatishdir. Tadqiqot ESGning umumiy va alohida jihatlarini hisobga olib, korporatsiyalarning moliyaviy natijalariga qanday ta'sir qilishini baholaydi. Tadqiqot 2010 yildan 2021 yilgacha bo'lgan davrda S&P 1500 indeksi kompaniyalari ma'lumotlaridan foydalanilgan. ESG ballari va moliyaviy ko'rsatkichlar (Tobin's Q va ROA) o'rtasidagi korrelyatsiyani baholash uchun Thompson Reuters Refinitiv ma'lumotlar bazasidan olingan ma'lumotlar asosida qat'iy effektli regressiya modeli ishlatilgan. Tadqiqot natijalari ESG reytingi bilan bozor qiymatiga asoslangan moliyaviy ko'rsatkich – Tobin's Q o'rtasida sezilarli ijobiy bog'liqlik mavjudligini ko'rsatdi. Alohida ko'rib chiqilganda, ijtimoiy ustun balli moliyaviy natijalarga sezilarli ijobiy ta'sir ko'rsatgan, atrof-muhit va boshqaruv ustunlari esa o'rtacha va deyarli sezilmaydigan aloqalarni namoyish etgan. Ushbu tadqiqot natijalari korporativ barqarorlikka investitsiyalarning ta'sirini yaxshiroq tushunishga hissa qo'shadi. Bu korporativ va davlat tashkilotlariga barqarorlik bo'yicha sa'y-harakatlarini yanada samarali qilish uchun qimmatli tahlilni taqdim etadi.

Keywords:
Kalit so'zlar:

❖ *Tobin's Q (TQ), Corporate Financial Performance (CFP), Corporate Social Responsibility (CSR), Environmental, Social and Governance (ESG), Return on Assets (ROA), Return on Equity (ROE).*

❖ *Tobin's Q (TQ), korporativ moliyaviy natija (CFP), korporativ ijtimoiy mas'uliyat (CSR), atrof-muhit, ijtimoiy va boshqaruv (ESG), aktivlar bo'yicha daromad (ROA), ustav kapitali bo'yicha daromad (ROE).*

Introduction.

ESG is gaining momentum as corporations are shifting their mission from serving shareholders to serving stakeholders. We are witnessing a growing number of businesses pledge to incorporate ESG into their decision-making practices and observing a radical move from instant profit generation to longstanding sustainable value creation. Initially, shareholder value used to be described as short-term profit generation. However, the corporate focus is currently moving towards acting responsibly and sustainably to gain a secure place in the economy. Long-term value preservation for shareholders and sustainability are becoming increasingly important. Companies are adopting CSR strategies and improving reporting on their ESG activities to address growing requests from investors, regulators, and society. It is commonly agreed that ESG would bring value-add to corporations and shareholders in the long-run. But, in the short-term, academia still lacks unified empirical evidence of the relationship between environmental, social and governance pillars and corporate financial performance despite the strategic interest of stakeholders (Huang et al., 2020). Yet, sustainability commitments remain illusory, and there is still an open question of whether corporates can benefit the interests of the broader stakeholders. In order to respond to this question, the paper will explore the direct causal relation between ESG scores and corporate financial performances.

Literature review.

A great body of research has been conducted to investigate the link between ESG and financial performance, whereas various models and approaches have been employed. However, whether the association is positive, negative, or insignificant is still debated.

Background to ESG

In 2004, the United Nations Global Compact study "Who cares wins" first

introduced the term ESG. Since then, the abbreviation has become an umbrella term for sustainable business practices and investments which seeks positive returns while considering positive environmental, social and governance impact (Al Ansari and Alanzarouti, 2020). Nowadays, businesses and investors frequently utilize ESG ratings as a key metric to assess company's overall corporate social responsibility performance. ESG fundamentally examines and integrates the performance of a company's environmental, social, and corporate governance activities.

Overall, the broad ESG topic has become more important for investors, with the phrase "ESG" appearing more frequently in earnings calls from big corporations (Scatigna et al., 2021).

Moreover, in 2013, a survey of 1000 chief executive officers (CEOs) worldwide revealed that 93% of the respondents considered ESG essential to their business' success (UN, 2019). According to Bank of America, \$200 trillion will flow into ESG funds during the next two decades (Stevens, 2019). As the financial implications of ESG concerns become more evident, rating agencies are paying more attention. However, ignoring ESG risk has frequently resulted in share price declines and bankruptcy, demonstrating the importance of the ESG indicators (Khan, 2022). Overall, the expanding ESG concerns show that economies and corporations are changing to become more sustainable. (Khan, 2022).

ESG and Corporate Financial Performance relationship. Reasons for divergence

Despite the 30 years of research on the topic, empirical evidence is still indecisive, and the CSR and CFP relationship debate is far from reaching a consensus. Several articles have attempted to explain why the empirical research on the CSR-CFP relationship has come to varying conclusions so far. For example, Eccles and Viviers (2011) claim that there is no definite evidence to deliver a verdict, while

Singh et al. (2022) sees the rationale for the inconclusive evidence in the absence of standard metrics that help measure the non-financial performance of an organization. Another group of researchers (Horváthová, 2010, Endrikat et al., 2014, Lu et al., 2014) who conducted meta-analytical reviews concluded that the reason behind the equivocality of outcomes is the uneven application of ESG measurements. According to Trumpp and Guenther (2017), there is no obvious indication of a positive or negative link between the performances, which might be attributed to non-linearities in ESG-CFP relationships. Similarly, Huang et al. (2020) claim that the diverse outcomes obtained by papers can be explained by different metrics of CSR and CFP as well as omitting economic fluctuations.

Overall, scholars agree that the main reason for the divergence is the absence of clear metrics for ESG and CFP.

Positive empirical evidence

A growing amount of empirical evidence supporting stakeholder theory has been obtained (Wang and Sarkis, 2017, Velte, 2017, Hussain et al., 2018, Harjoto and Laksmana, 2018, Fatemi et al., 2018, Xie et al., 2019, Qureshi et al., 2021, Kumar and Firoz, 2022, Lisin et al., 2022) confirming that sustainability improves corporate financial performance.

Inspired by conflicting outcomes, Friede et al. (2015) conducted one of the most extensive investigations on the issue, combining information from over 2200 empirical studies. The researchers employed vote-count analysis and a meta-analysis to assess the papers. According to their findings, nearly 90% of the studies suggested a positive association between ESG performance and CFP and supported the stakeholders' theory. Based on their exhaustive analysis, Friede et al. (2015) concluded that corporates may better align investors' interests with the broader objectives of society by integrating long-term sustainability into their practices. Wang and Sarkis (2017) utilized a four-stage Baron and

Kenny mediation evaluation approach to identify the relationship between CSR governance and corporate financial performance. According to their research, CSR results entirely mediate the relationship between CSR governance and financial consequences. They concluded that only by strictly engaging in sustainability activities company can benefit from increased financial performance. Xie et al. (2019) also explored the relationship between ESG activities and ROA, company market value and corporate efficiency. Based on the analyses, they discovered that a moderate degree of ESG disclosure has a considerable positive influence on company efficiency, as opposed to high or low levels of disclosure.

Overall, opportunities for ESG outperformance abound across the market. This is particularly true for North America and Emerging Markets (Friede et al., 2015). Investments into ESG and commitment to corporate social responsibility help businesses establish and sustain social legitimacy, which contributes to a better business climate and higher financial returns (Wang and Sarkis, 2017). Although the impact of the environmental and social pillars is still being debated, it can be argued that ESG performance as a whole has a positive impact on corporate operations (Lisin et al., 2022).

Negative empirical evidence

Research by Fabozzi et al. (2021) established the negative impact of ESG on accounting-based performance measures (ROA and ROE) in a study of 530 Japanese non-financial companies between 2009-2016. Using OLS and quantile regression models, researchers concluded that the managers of Japanese non-financial companies consider shareholder wealth maximization as their primary target, which supports the shareholder theory. Similar patterns were observed among Chinese non-financial companies (Farag et al., 2015). The non-linear relationship between ESG-CFP has also been highlighted by

(Adegbite et al., 2019, Nuber et al., 2020), who concluded that the positive impact of the ESG would realize only when a certain threshold is surpassed. Company commitments below the threshold would deliver a negative effect on CFP. A similar relationship was discovered by (Bruna et al., 2022), exploring the sample of EU listed companies between 2014-2019. Paper adopted a time-lagged panel regression to measure the impact of ESG on CFP considering the size effect. The paper found evidence that the impact of ESG on CFP depends on the company size, and the results suggest a strong negative effect of ESG commitments on smaller companies. These findings may indicate that, below a particular size level, the investments required to support ESG efforts do not result in enhanced CFP.

Overall, we can see that empiric evidence for the negative ESG-CFP patterns exists in the academic literature. The patterns suggest that mostly accounting-based performance measures such as ROA, ROE or market-to-book ratio are negatively associated with companies' sustainability efforts. When decomposed into individual pillars, environmental and social pillars were the main drivers of the negative relationship, while the governance pillar was primarily associated with a positive or neutral relationship.

Research methodology.

The increased interest in the subject from the investors and the sustainability commitments of the business community propose that further research on the topic would benefit the stakeholders and help contribute to the existing literature. The paper aims to improve the research by employing a larger sample and a more extended timeline. Secondly, many researchers often neglected the lag effect of the ESG on CSR and focused on the current year-to-year relationship. This paper analyses a one-year lagged ESG effect on the CFP variables. Thirdly, the paper investigates not only the impact of the combined ESG score

on the CFP but will go deeper and analyze the contribution and weight of each individual ESG pillar on the CFP.

The paper will apply stakeholder and shareholder theory to examine the relationship between the ESG and CFP. The below hypotheses have been developed to test the assumptions based on the literature review and underlying theories.

Hypothesis 1 – Positive relationship exists between the combined ESG scores and Corporate Financial Performance, defined as Tobin's Q and ROA

Hypothesis 2 – Positive relationship exists between Individual ESG pillar scores and Corporate Financial Performance, defined as Tobin's Q and ROA.

Analysis and discussion of results.

Panel data analysis will be conducted for the research, a common type of data analysis in exploring corporate reactions and behaviour of economic entities. Data will be winsorized at 1% and 99% tails to exclude the outliers' influence, thus creating more robust estimators. The Breusch Pagan LM test will be implemented to identify if pooled OLS or panel effect estimator fits the model.

Moreover, the Hausman diagnostics test will be conducted to identify whether the fixed or random effect model is appropriate for the selected unbalanced dataset.

Company-year panel data from 2009 to 2021 has been collected from Thomson Reuters, Refinitiv database. The S&P 1500 composite index companies with available ESG and other pertinent financial data were the main subject of the report. With small (S&P 600), medium (S&P 400), and large (S&P 500) components comprising over 90% of the market capitalization of all American equities, this index represents a diverse cross-section of publicly listed companies. (Abebe and Acharya, 2022). The S&P 1500 index increases the availability of data for research variables and

allows broader generalization of the study's conclusions

The companies from 2009 to 2021 with available combined ESG and individual environment, social and governance scores were selected as initial samples. The companies in the finance industry were later removed from the sample in order to improve the reliability of the data because of how they operate and are subject to different rules than businesses in other industries. Further, companies with missing financial data have been excluded resulting in the final sample set of unbalanced panel data, including 12 periods and 7236 firm-year observations.

The paper will employ Combined ESG scores and Environmental Pillar Score, Social Pillar Score and Governance Pillar Score from 2009 to 2020, considering the lag effect. All scores were downloaded from Thompson Reuters, Refinitiv DataStream.

For the research to ensure reliable results, dependent variables should be represented by indicators that demonstrate how sound companies perform. Tobin's Q and ROA are selected as dependent variables as they reflect the companies' market-based and

accounting-based financial performance. Company financial performance data was downloaded using Thompson Reuters, Refinitiv DataStream.

For the model to be complete, several control variables that explain the financial performance from canonical economic theory should be included. In line with previous literature (Velte, 2017, Behl et al., 2022, Wong et al., 2021, Alkaraan et al., 2022), control variables such as research and development investments, size, and debt were included in the model. The data contained in the control variables were downloaded from Thompson Reuters Refinitiv DataStream.

After excluding missing data and data on financial companies, the research sample comprised of 7236 company year observations distributed among ten industries as per the Global Industry Classification Standard (GISC). Overall, all industries are represented in the sample, with "Industrials" having the most significant share of 23 % and Telecommunications having the least share of 2 % of total observations. Shares of the industries slightly fluctuated during the given period of 2010-2021.

Table 1

Total sample distribution percentage across industries. The table demonstrates the distribution percentage of total sample observations across industries

Industry	Grand Total	
Basic Materials	507	7%
Consumer Discretionary	1498	21%
Consumer Staples	519	7%
Energy	478	7%
Health Care	609	8%
Industrials	1697	23%
Real Estate	417	6%
Technology	821	11%
Telecommunications	178	2%
Utilities	512	7%
Total	7236	100%

Source: prepared by the author

Regression Models

In order to evaluate the link between ESG and CFP and test the Stakeholder theory, the

below function(Velte, 2017) has been extended into four models.

$$CFPi = f(ESGi, R\&Di, Debt_i, SIZE_i)$$

The model for testing Hypothesis 1

$$\text{Model 1.1: } TQ_t = \alpha + \beta_1 ESG_{t-1} + \beta_2 R\&D_t + \beta_3 Debt_t + \beta_4 Size_t + \varepsilon$$

$$\text{Model 1.2: } ROA_t = \alpha + \beta_1 ESG_{t-1} + \beta_2 R\&D_t + \beta_3 Debt_t + \beta_4 Size_t + \varepsilon$$

The models for testing Hypothesis 2

$$\text{Model 2.1: } TQ_t = \alpha + \beta_1 E_{t-1} + \beta_2 S_{t-1} + \beta_3 G_{t-1} + \beta_4 R\&D_t + \beta_4 Debt_t + \beta_4 Size_t + \varepsilon$$

$$\text{Model 2.2: } ROA_t = \alpha + \beta_1 E_{t-1} + \beta_2 S_{t-1} + \beta_3 G_{t-1} + \beta_4 R\&D_t + \beta_4 Debt_t + \beta_4 Size_t + \varepsilon$$

Since our unbalanced panel data contains cross-sectional and time dimensions, ordinary multiple regression techniques may not provide the optimal results.

The Hausman test established that the FE model is the most suitable for our unbalanced

Table 2

Descriptive Statistics provides the summary statistics for the variables used in the regression analysis. It is important to mention

dataset. Therefore, we use Fixed Effect regression model to analyse the data and identify the relationship between dependent and independent variables.

that all variables were winsorized at the 1% on both tails (1%, 99%) to exclude the effect of outliers on the analysis.

Table 2

Descriptive Statistics. The table reflects the descriptive statistics for the variables included in the regression model. N is the number of total observations. Mean is the average value of each observation. St.D shows the Standard deviation of each variable. Median shows the 50th percentile of each variable. Min and Max represent minimal and maximal values for each variable. 1st Perc and 99th Perc shows the 1st and 99th percentile of the variable.

	N	Mean	Median	St.D	Min	Max	1st Perc.	99th Perc.
year	7236	2016.759	2017.000	3.353	2010	2021	2010	2021
TQ	7092	1.638	1.295	1.129	.327	7.913	.417	6.044
ROA	7092	.073	0.065	.074	-.188	.312	-.124	.278
ESG	7092	50.171	49.235	17.899	14.25	88.12	16.84	86.14
E	7091	41.84	40.670	25.701	1.03	91.14	1.63	88.81
S	7092	51.325	50.235	20.438	12.14	94.25	14.58	92.18
G	7092	56.584	58.205	20.037	10.33	93.78	13.9	91.6
RD	7164	255.266	0.000	879.633	0	8494	0	5488
Debt	7093	.301	0.293	.154	.002	.837	.009	.711
Size	7092	22.832	22.746	1.308	20.071	26.279	20.287	25.957

Source: Stata outcome

Correlation results are in line with common literature. There is a solid explanatory

relationship between individual pillar scores and the combined ESG score.

Table 3

Correlation matrix. The matrix exhibits the level of correlation between each variable. The correlation coefficient shows the level of interrelation between pair of variables. The coefficient is always between -1 to 1. Closer to extreme points indicate that there is a high interrelation between variables. Close to zero values of coefficients indicate that there is no correlation or weak correlation

Variables	(1) TQ	(2) ROA	(3) ESG	(4) E	(5) S	(6) G	(7) RD	(8) Debt	(9) Size
(1) TQ	1.000								
(2) ROA	0.531	1.000							
(3) ESG	0.081	0.085	1.000						
(4) E	0.054	0.075	0.852	1.000					
(5) S	0.126	0.096	0.872	0.689	1.000				
(6) G	-0.037	0.011	0.593	0.299	0.269	1.000			
(7) RD	0.102	0.084	0.209	0.220	0.218	0.048	1.000		
(8) Debt	0.026	-0.160	0.052	0.052	0.048	0.027	-0.058	1.000	
(9) Size	-0.132	-0.027	0.498	0.536	0.424	0.207	0.332	0.151	1.000

Source: STATA analysis

Interestingly, Size significantly correlates with combined ESG and the individual pillar scores. This is in line with Dremptic et al. (2020) that larger companies possess more

Table , the regression outcome for the TQ-ESG relationship is positive with a coefficient of 0.00845, significant on a 1% level, which supports our hypothesis that ESG helps drive the firm value. The estimator is slight and economically insignificant, but it still could prove that investments into the ESG domain and subsequent ESG score improvement by 1 point would increase the market-based company value by 0.008.

resources to prepare and report ESG data and can work with third-party rating agencies, which explains high correlation results.

As expected, in

Overall, TQ is a financial performance measure that mirrors the interests of company shareholders. The regression outcomes suggest that investors value companies prioritizing ESG performance more. This is in line with the stakeholder theory that firms with broader corporate social responsibility practices are more valued by the market than those focusing only on pure financial gains.

Table 4

Regression output for Models 1.1 and 1.2. The table demonstrates the outcomes of the regression models 1.1 and 1.2 based on Hypothesis 1.

	TQ	ROA
VARIABLES	Fixed Effects	Fixed Effects
ESG	0.00845 *** (0.000849)	4.90e-05 (7.32e-05)
RD	0.000150 *** (3.71e-05)	1.53e-05 *** (3.10e-06)
Debt	0.490 ***	-0.169 ***

	(0.100)	(0.00866)
Size	-0.200 ***	-0.0226 ***
	(0.0265)	(0.00233)
Constant	5.560 ***	0.632 ***
	(0.587)	(0.0516)
Observations	6,671	6,664
Number of company	1,021	1,026
R-squared	0.028	0.088
Company FE	YES	YES

Standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Model 1.2 in

Table , estimated the ESG-ROA relationship. Regression results reveal that accounting-based financial performance measure ROA is not impacted by the combined ESG performance. Similar results have been confirmed by (Qureshi et al., 2021, Nollet et al., 2016, Liu et al., 2021, Shabbir et al., 2020). One possible explanation for the insignificant association between ESG and ROA is justified on the ground that the firms may be

Table contradict our expectations and suggest that the Social pillar and Environmental pillar scores have a statistically significant impact on TQ. In contrast, the Governance pillar does not statistically impact the company's market value. We can see that TQ is mainly driven by the Social score, which has a value of 0.007 significant at the 1% level and the Environmental score, which has a value of 0.00138 significant at the 10% level. Surprisingly, Governance has an insignificant positive effect on the TQ, which is divergent from ((Velte, 2017, Xie et al., 2019, Lisin et al., 2022).

Regression results suggest that the social pillar is the domain with the biggest impact on

consistently increasing their asset base to support sales growth(Qureshi et al., 2021). As a result, an increase in the revenue level of companies does not affect their ROA because of a parallel increase in the size of assets. Even though the impact is statistically insignificant, the positive coefficient still confirms the stakeholder's theory and our hypothesis.

Regression outcomes in

CFP. The social performance is the combination of "Workforce", "Human Rights", and "Product Responsibility" category scores. Regression outcomes on the S&P 1500 for 2010-2021 suggest that investors value the improvements within these categories compared to other pillar scores. Similar significant results of the social score on corporate value creation were also obtained by (Enalpe, 2022, Bhaskaran et al., 2020).

To sum up, regression results confirm the stakeholder theory, implying that improvements in the ESG performance, namely social and environmental domains, would increase the market-based corporate financial performance.

Table 5

Regression output for models 2.1 and 2.2. The table demonstrates the outcomes of the regression models 2.1 and 2.2 based on Hypothesis 2.

	TQ	ROA
VARIABLES	Fixed Effects	Fixed Effects

E	0.00138 *	-9.73e-05
	(0.000730)	(6.38e-05)
S	0.00734 ***	0.000138 *
	(0.000869)	(7.64e-05)
G	0.000108	1.36e-05
	(0.000568)	(4.98e-05)
RD	0.000185 ***	1.64e-05 ***
	(3.82e-05)	(3.26e-06)
Debt	0.510 ***	-0.167 ***
	(0.101)	(0.00892)
Size	-0.188 ***	-0.0233 ***
	(0.0271)	(0.00244)
Constant	5.252 ***	0.646 ***
	(0.601)	(0.0540)
Observations	6,423	6,422
Number of company	1,013	1,018
R-squared	0.035	0.088
Company FE	YES	YES

Standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table exhibit that only the social pillar score has a significant positive relationship with ROA at the 10% level, with a coefficient of 0.000138. In contrast, the environmental and governance pillars suggest an insignificant relationship. Economical insignificance of all individual pillar scores is in line with the (Qureshi et al., 2021, Nollet et al., 2016, Liu et al., 2021, Shabbir et al., 2020).

Conclusion and suggestions.

The study was summoned to increase the understanding of the potential economic benefits of improvements in ESG performance for corporates. The data used for the analysis was obtained using Thompson Reuters Refinitiv DataStream. The study utilized an extensive dataset of S&P 1500 index constituents representing about 90% of the market capitalization of all stocks in the US, which increased the availability of the data for research variables and allowed broader

Model 2.2 intended to test the impact of individual pillar scores on ROA. Regression outcomes in

generalization of the study findings. Based on the outcomes of the Breush-Pagan LM test and the Hausman test, the fixed effect regression model was run on the unbalanced dataset of

7236 firm-year observations from 2010 to 2021. Conducted correlation analysis and variable inflation factor (VIF) test eliminated the possibility of multi-collinearity and verified the trustworthiness of the regression analysis.

In line with the stakeholder theory, research expected to obtain significant positive relationship results between ESG and CFP, as companies with high ESG performance may enjoy benefits in the form of customer loyalty, improved sales, lower risk and lower cost of capital. Overall, the analysis shows a significant positive relationship between sustainability indicators represented by the Thompson Reuters combined ESG scores and market-based financial performance measures defined as Tobin's Q. The regression results confirm

that investors place a higher value on companies that prioritize ESG performance. This is consistent with stakeholder theory, which holds that organizations with broader corporate social responsibility practices are more valued by the market than those focused just on financial gains.

When decomposed into individual pillar scores, the regression outcomes suggest that the Social pillar and Environmental pillars scores have a positive, statistically significant relationship with Tobin's Q, while the Governance pillar score does not associate with the company's market value. The results reveal that company market value is mainly driven by the Social score and the Environmental score, which gives clear direction in prioritizing investments into corporate social responsibility domains. However, the accounting-based performance indicator, ROA, is only driven by the social pillar score, while the results of the environmental and governance pillars suggest an insignificant relationship.

The research findings suggest that genuine commitments to improving corporate environmental, social and governance issues would generate positive results in the form of enhanced financial performance. In this regard, our findings provide some important implications for policymakers, investors and corporate managerial bodies. We believe that corporate decision-making bodies should incorporate sustainability into their strategic planning and prioritize investments into social and environmental domains more to achieve faster improvements in the financial performance.

The research outcomes can also assist institutional investors in shifting their focus towards building more sustainable and green

portfolios and benefit from improved financial performance. Finally, the research findings are also relevant for the regulatory bodies and researchers looking to increase incentives for developing and expanding stakeholder management tools and corporate sustainability efforts.

The main limitation of the research is that it only analyzed the one-year lag effect of the sustainability indicators on the financial performance measures. However, the actual effect of the ESG investments may take longer or shorter to realize and impact the corporate financial performance. Analysis of the ESG variable with a slightly different lag-time may yield different results. Another potential limitation of the paper comes from the lack of standardized sustainability indicators, which makes comparing results from various research utilizing different data sources less meaningful.

The third limitation may come from the lack of ESG data. Even though ESG reporting significantly improved starting from 2015, the limited availability of ESG scores for the early years of observations could have caused omission bias.

The impact of industry and company size also poses a limitation on the results of the paper. For the companies representing high emitting industries, sustainability endeavours would require considerably more spending than low emitting ones, which may distort the results. On the other hand, bigger companies can afford and allocate resources to work on sustainability disclosures, resulting in better ESG ratings compared to smaller companies that often lack the necessary resources to work on disclosure issues.

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