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The ESG-Financing Nexus: The Link Between Sustainability And Capital Structure

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Abstract

The increasing significance of Environmental, Social, and Governance (ESG) performance prompted this study to influence business dynamics, especially by improving finance performance. This study examined the correlation between corporate financial performance in India and environmental, social, and governance (ESG) performance. Utilizing unbalanced panel data from 2011 to 2022 pertaining to non-financial firms registered on the National Stock Exchange. This study's positive correlation between ESG performance and financial performance is grounded in stakeholder theory and the resource-based approach.

The study utilized a fixed effects regression model to account for unobserved variation between time periods and among enterprises. To mitigate potential endogeneity concerns and validate the trustworthiness of the findings, the two-stage least squares (2SLS) method is employed as an alternative estimating tool, along with a distinct assessment of the cost of equality.

Moreover, heterogeneity analyses examine variations based on firm size. The results indicate a significant positive correlation between ESG performance and financing performance correlated with more noticeable advantages in bigger businesses. This indicates that business financial outcomes are improved by ESG performance. This study contributes to the existing information by emphasizing the financial advantages of ESG performance and presenting empirical data from a rising market. These findings possess practical consequences for investors, politicians, and company executives advocating for sustainability while enhancing corporate value

INTRODUCTION

While in the position of UN secretary in 2004, Kofi Annan requested that 20 financial sector works in tandem with the United Nations and the Corporation of International Finance to devise plans to incorporate ESG factors into financial exchanges. It was in the subsequent 2004 United Nations Global Impact Report that the abbreviation ESG and its related criteria were initially used,
, "Who Cares Wins." Environmental issues are linked to energy efficiency, greenhouse gas emissions, and environmental contamination. (United Nations 2004). Examples of social issues are employment safety and human rights. On the other hand, company principles as well as the procedures used to manage them are the main focus of governance. According to Daugaard & Ding (2022), ESG ratings make it possible to quantify business activities while taking sustainability and social effect into account. The goal of the 2004 publication of "Who Cares Wins" was to make sustainability quantifiable in

order to advance it. Since then, analysts have been urged to incorporate ESG into their valuation models and incorporate ESG considerations into their analysis. Investors have been urged to demand ESG criteria in order to discover and reward sustainable enterprises.

(United Nations 2004). We must, however, distinguish between businesses that function under democratic and non-democratic nations. While ESG functions as given limits rather than initiatives in democratic nations, it can be viewed as formal characteristics by businesses operating in non-democratic governments that may not be applied as specific company conduct. In addition to being the fundamental framework and internal requirement for businesses to pursue green development, ESG is a system for evaluating non-financial enterprises that emphasizes governance, society, and the environment. It encourages businesses to shift from maximizing their own interests to maximizing social interests, which is also a crucial first step in promoting high-quality economic development of the society. However, if the cost of implementing an ESG strategy cannot be offset by later profits, it is only external pressure rather than internal motivation that would prevent businesses from further adhering to the ESG standards to conduct business. Therefore, there has been an upsurge in study between financing metrics and ESG used by businesses, since it is vital to clarify the hypothetical and empirical implications of ESG on these measurements.

Because of its financial ramifications, it is essential to research ESG (Environmental, Social, and Governance) variables and how they relate to the financing cost of equity capital. ESG elements are markers of a business's resiliency and long-term viability. Considering ESG factors is becoming more significant to investors, analyzing their impact on equity capital cost offers acumens in the organization's future performance. Since Capital costs tend to be minimum for companies having larger ESG scores, knowing how ESG performance impacts firm financing costs aids in risk management by Study this relationship understanding investor preferences and behavior. Minimum empirical researches have employed conventional research methodologies to examine the effect of ESG-related aspects on the financing costs of publicly listed firms. The influence of ESG performance on corporate finance costs is examined in this study in relation to India's current institutional environment and economic context. The results, which show how ESG performance affects growth, shareholder wealth, and company value generation, will help the management team make better financing decisions. The management will also be able to comprehend how ESG investments impact finance dynamics, business value, and profitability. The study's recognition of the importance of ESG will also help a company reduce risk and improve overall performance. Therefore, the study seeks to enhance the current understanding on sustainability by examining and articulating a case for value-added insights for investors and other stakeholders.

2. Literature Review and Hypotheses Formulation

2.1 The relationship between ESG and firm financing performance.

There was a long-held belief that enhancing social and environmental issues while maintaining profitability was impossible. Fortunately, attitudes have changed, and now that combination is not only possible but also essential. As a result, businesses are becoming more and more inclined to consider sustainability concerns while making financial choices. Furthermore, in recent years, this kind of mindset has become required, and companies that fail to embrace a climate-friendly and socially responsible mindset may face consequences. This is because all stakeholders, from investors to consumers, are beginning to incorporate they consider social and environmental issues when making decisions. Equity investors are among the most engaged stakeholders on the aforementioned spectrum, as they are residual claimants, bearing the most of the risk in the event of firm failure and reaping the majority of the rewards upon success. A multitude of studies has examined the relationship between ESG factors and equity costs, with the majority concluding that firms exhibiting higher ESG/CSR commitments tend to incur lower equity costs (e.g., Dhaliwal, Li, Tsang, & Yang, 2014; El

Ghoul, Guedhami, Kwok, & Mishra, 2011; Ng & Rezaee, 2015; Reverte, 2012).

Due to ESG, firms must navigate both opportunities and problems in their risk-return dynamics with stakeholders, including shareholders.

The consequence of ESG information disclosure on the costs of debt or equity financing has been the subject of earlier research (Dhaliwal et al., 2014; Maaloul et al., 2021; Nicola et al., 2021; Xu et al., 2022). Prior research on ESG performance has only included finance costs (Qiu and Yin, 2019) and bond capital expenses (Maaloul et al., 2021; Nicola et al., 2021). According to Kim et al. (2019), For businesses, the risk of stock financing is generally lower than that of debt financing, and the cost of equity capital reflects investors' risk assumptions for a company. Ng and Rezaee (2015) asserted that there is a negative correlation between the cost of equity capital and sustainable performance.

Meanwhile, research indicates that if the economic climate shifts, El Ghoul et al. (2017) indicate that the impact of sustainable development capabilities on firm financing costs may vary.

The financing cost of equity capital is impacted by financing constraints, but ESG performance may theoretically lessen them (El Ghoul et al., 2011; Zhang et al., 2022). Nevertheless, prior research has not found any evidence to demonstrate the moderating effect of ESG and equity capital costs (Hashim Syarif et al., 2019). The investment concept embodies the investor's financial disposition, encourages the use of conventional analysis and discernment, directs the investor's actions and evaluations, and articulates the investor's motivations and rationale for investing.

Furthermore, when the company seeks outside funding, foreign investors usually read and perceive the same material differently, creating varying expectations for the target company (Hong & Stein, 2007). Credit rating news coordinates the beliefs of investors. According to Tran et al. (2019), asset prices are influenced by investor disagreement over volatility (Lin & Lin, 2010).

In other words, investors desire a risk premium commensurate with the returns from other assets of comparable risk.

The cost of equity, contingent upon the investment's risk profile, signifies the requisite return. According to Brackett & Rezaee (2012), an optimal investment in ESG strategies can maximize firms' positive externalities while balancing the costs and benefits of sustainability activities. According to the Stock Exchange (TSX, 2014), the anticipated advantages of sustainability include the creation of long-term benefits, a reduction in litigation costs and environmental responsibility, cost savings from a sustainable supply chain, improved product quality and customer satisfaction, improved reputation and regulatory approval, and higher staff productivity and loyalty.

Signaling theory suggests that a company's excellent ESG performance will communicate to the outside world that it is dedicated to attaining superior sustainable performance. Investors can detect and address the effects of financial risks (Ng & Rezaee, 2015) and company image by focusing on financial and environmental, social, and governance. According to Pina et al. (2020), this will decrease the cost of equity and enhance economic performance.

Cheng et al. (2006) claim that improved financial transparency and sound governance reduce the cost of equity capital.

There is evidence that improved environmental risk management is associated with a lower cost of equity capital (Sharfman & Fernando, 2008). ESG (Environmental, Social, and Governance) concerns can directly affect a company's financing costs since lenders and investors are increasingly viewing ESG performance as a gauge of risk and long-term sustainability. Here's how and why ESG affects corporate finance costs. Investors and lenders assess the ESG risk profile of a business.

Strong ESG policies, such as controlling environmental damage, encouraging good governance, and upholding excellent social interactions, make a company appear less hazardous. More advantageous financing terms, such as reduced interest rates and simpler access to money, might arise from a lower perceived risk. On the other hand, a business with insufficient ESG practices such as labor disputes, poor governance, or environmental infractions is viewed as riskier, which may raise its financing costs. Typically, supplementary risk is incorporated into the pricing of loan and stock, with lenders imposing elevated interest rates or investors

demanding more returns to compensate for the heightened risk.

Long-term financial sustainability is associated with strong ESG practices. Addressing environmental, social, and governance issues proactively improves a business's prospects of long-term success and makes it more appealing to lenders and investors seeking consistent, sustainable returns. Companies with strong ESG frameworks are typically viewed as more capable of managing potential risks, such as changing market conditions, environmental issues, and regulatory changes.

which results in a more favorable risk profile and, consequently, cheaper financing costs.

The primary determinants of the correlation between corporate finance costs and ESG performance are the perceived risk and reputation of an organization's ESG procedures. Good ESG performance lowers risk, boosts investor trust, and generates cash flow, all of which minimize financing costs. However, do not follow ESG performance can limit access to ESG-focused funding choices, boost borrowing costs, and increase perceived risks. ESG considerations are becoming more and more important to lenders and investors, and businesses that adhere to ESG guidelines are rewarded with better financing conditions and reduced interest rates. By Crifo et al. (2015), The ESG performance typically influences corporate valuation and investment decisions, as demonstrated by a field experiment done. This paper proposed a hypothesis derived from the aforementioned analysis.

H1: A negative correlation exists between ESG and corporate finance performance.

3. Research design

3.1 Sample and data

This research seeks to examine the influence of ESG legislation on the financing performance of companies in the Indian market, with particular emphasis on the cost of stock.

Research focuses on publicly traded companies on NSE between 2011 and 2022. The selected period is intended to thoroughly comprehend the enduring correlations between ESG and financing cost. The original goal was to include all Indian registered companies to guarantee a complete picture. Data collected from Thomson Reuters DataStream and financial reports enables a comprehensive analysis of this research, especially inside the changing surroundings of Indian firms.

Dependent Variable: The PEG model was utilized in this study to calculate the cost of equity estimations, Claus and Thomas (2001) developed the ones. This study adopts PEG model due to its popularity in earlier research (salvi et al., 2020; Maama and Marimuthu, 2022; Dhaliwal et al., 2014) shows that the PEG model findings outperform the other measurements. PEG is calculated by dividing the P/E ratio relative to the earnings pace of growth around a certain period.

Independent variable: Environmental, social, and governance (ESG) aspects are the key independent variables.

The Thomson Reuters ASSET4 database, which employs publicly available data and is accessible on DataStream, is where the ESG scores are obtained from many criteria. Scholars frequently utilise the Thomson Reuters ASSET4 database to examine the relationship between corporate performance and ESG (Ioannou & Serafeim, 2012).

Control variables: To conduct a thorough study, specific control variables are included. Firm LEV (Leverage) quantifies the extent to which a corporation finances its activities through debt as opposed to equity. In cost of equity models, leverage serves as a crucial control variable, since an elevated debt-to-equity ratio typically heightens the company's financial risk. Firm size is often assessed through market capitalization or total assets. More prosperous corporations are typically perceived as less hazardous due to their greater earnings stability, which may reduce the cost of equity. TANG The proportion of a company's assets that are tangible.

The term "tangibility" refers to property, plant, and equipment, in contrast to intangible assets such as goodwill or intellectual property. The ratio of a company's market value to the expense of asset replacement is referred to as Tobin's Q (TBQ). Tobin's Q, as a controlled variable, distinguishes the effect of growth prospects from other elements affecting cost.

equity. GROWTH (Growth Opportunities) denotes a company's prospective growth capacity, typically assessed by revenue or earnings expansion over time. Firms with elevated growth potential typically incur a greater cost of equity, as investors want better returns to compensate for the increased uncertainty linked to growth.

Table 3.1 Variable definition

Variable		Definition
Dependent variables	COC_PEG	Equity capital cost uses the PEG model to measure it. Easton (2004)
Independent variable	ESG	ESG performance is evaluated on a scale of 0 to 100.
Control variables	LEV	The ratio of total liabilities to total assets
	FS	An asset's natural logarithm
	PROFIT	Total expenses-total revenue
	TANG	Total assets-intangible assets
	TBQ	The total value of all equity + liability investments/the total value of all equity + liability books
	GROWTH	The current period's operating income growth rate

3.2. Model specification

$COE\_PEG_{i,} = \beta_0 + \beta_1 ESG_{i,t} + \beta_2 LEV_{i,t} + \beta_3 FS_{i,t} + \beta_4 PROFIT_{i,t} + \beta_5 TANG_{i,t} + \beta_6 TBQ_{i,t} + Ind_{in} + Year_t + \varepsilon_{i,t}$ (4.1)

Underlying model estimated to check ESG's impact on firm financing cost in this model, $ESG_{i,t}$, is the independent variable $COE\_PEG_{i,t}$, is dependent variable enterprise financing cost proxy, $COE_{i,t}$ = Cost of Equity using PEG Model. The underlying control variables are $LEV_{i,t}$, $FS_{i,t}$, $PROFIT_{i,t,}$ $TANG_{i,t,}$ $TBQ_{i,t}$, and $GROWTH_{i,t}$, β_0 is the intercept term and $\varepsilon_{i,}$ is the error term. Moreover, the models also applying unobserved time-invariant factors specificto each industry-fixed effects (Ind_i), applied to industry-specific elements. Further to take time-specific effects into consideration, additional year-fixed effects ($Year_t$) are included.

Cost of equity measures

The cost of equity capital, estimated by the price return growth (PEG) model, from (Easton 2004). This study adopts PEG model due to its popularity in earlier research (salvi et al., 2020; Maama & Marimuthu, 2022; Dhaliwal et al., 2014) shows that the PEG model findings outperform the other measurements. Divide the price-to-earnings ratio by the earning growth rate over a given time period to get the price-to-earnings ratio (PEG). Following this line of thinking, we can get the equity capital cost by taking the square root of the inverse of the PEG ratio, which is the following equation.

$$\text{COE\_PEG model)} = \sqrt{(\text{esp}_2 - \text{esp}_1 / \text{p}_0} \quad (1)$$

The precise computation, which follows Easton's PEG model (Easton, 2004), is displayed in Formula 1, where P0 is the market price per share at the end of the year and esp2 and esp1 are the average earnings per share in the second and first periods, respectively, that analysts forecast.

4. Empirical results

4.1. Descriptive statistics

Important financial and non-financial factors are illuminated by Table (4-1) which provides a full set of descriptive statistics spanning 900 observations.

Among the variables examined, The COE_PEG (Cost of Equity, PEG Model) exhibits a mean of 0.247, indicating a little tendency towards lower values in the central tendency. The standard deviation of 0.109 signifies a moderate degree of variability, and the range from 0.008 to 1.021 underscores the distribution's span. ESG maintains mean around 52.876, with a standard deviation of 18.823. The broader range from 13.122 to 89.965 highlights the diverse ESG scores within the sample. Leverage (LEV) has a mean of 1.456, a standard deviation of 1.346, and a range from 0.024 to 6.717

for its minimum and highest values. The firm size (FS) has a mean of 19.46 and a standard deviation of 1.252.

ranging from 16.905 to 22.335. The firm's profitability (PROFIT) has a mean of 17.863 and a standard deviation of 3.922, with a range from a minimum of 0.000 to a maximum of 21.984.

Tangibility (TANG), presents a mean 3.402 with standard deviation 3.378 maximum minimum range from 0.512 to 25.628. The Tobins'Q (TBQ), value of means recorded as 14.184, standard deviation is 1.397, and range of maximum minimum from 11.788 to 16.382. Respectively business growth (GROWTH), presents a mean 16.474 standard deviation 1.632 recorded ranges from 11.514 to 20.224. The basic tendencies and variability of each variable in the dataset are nuancedly understood thanks to these descriptive statistics. A thorough overview is provided by the range of values, means, and standard deviations, laying the groundwork for more in-depth examinations of the financial and non-financial measures included in the dataset.

Table Error! No text of specified style in document.**-1 Data Summary Statistics**

Variables	Obs	Mean	Std. Dev.	Min	Max
COE-PEG	900	0.247	0.109	0.008	1.021
ESG	900	52.876	18.823	13.122	89.965
LEV	900	1.456	1.346	0.024	6.717
FS	900	19.46	1.252	16.905	22.335
PROFIT	900	17.863	3.922	0.000	21.984
TANG	900	3.402	3.378	0.512	25.628
TBQ	900	14.184	1.397	11.788	16.382
GROWTH	900	16.474	1.632	11.514	20.224

4.2: The Fixed-effects Regression Analysis of the Relationship Between ESG Performance and Financial Performance

The regression analysis depicted in Table (4-2) examines the relationship between Environmental, Social, and Governance (ESG) Performance and the Cost of Equity, denoted as COE_PEG (Cost of Equity utilising the PEG Model). Table (4-2) presents the outcomes of the OLS regression analysis. The results indicate that ESG has a statistically significant negative impact on the cost of equity (COE_PEG) at the 1% level (*** p<0.01), with the coefficient being reinforced. Concerning control variables, our findings reveal that leverage (LEV) positively influences the outcome. COE_PEG. The Firm Size (FS) has a positive and statistically significant association with COE_PEG at the 1% level. Firm profitability demonstrates a positive association with COE_PEG, albeit it is statistically insignificant. TANG (total assets) demonstrates a favourable effect compared to COE_PEG and is statistically significant at the 1% level. The TBQ (Tobin's q) demonstrates a positive connection with COE_PEG and is statistically significant at the 5% level. Furthermore, the Growth Rate (GROWTH) demonstrates a positive and statistically significant association at the 1% level with COE_PEG. The study's findings reveal that the cost of equity is significantly reduced for firms with superior Environmental, Social, and Governance (ESG) ratings.

Table 4-2 Regression Results of the effect of ESG on business financing cost

Variables	COE_PEG
ESG	-0.009***
	(-2.59)
LEV	0.047
	(0.99)
FS	1.512***
	(10.85)
PROFIT	0.008

	(0.70)
TANG	0.204***
	(8.40)
TBQ	0.255**
	(2.40)
GROWTH	0.205***
	(6.14)
Constant	-26.106***
	(-2.891)
Industry effects	Yes
Year effects	Yes
No. of Obs	900
R-squared	0.979

Note: T-statistics are presented in parenthesis; * p0.01, ** p0.05, * p0.1**

This study uses the PEG Model (COE_PEG) to examine how Environmental, Social, and Corporate Governance (ESG) performance affects a company's financing costs, with a particular focus on the Cost of Equity. The findings indicate the relationship between the Cost of Equity and ESG performance.

have a significant and statistically significant negative relationship. Results

align with (Augustina Kurniasih et al., 2022). Comparing this study with prior research, it is notable that earlier studies, such as those by (Dhaliwal et al., 2014; Maaloul et al., 2021; and Nicola et al., 2021), focused on how ESG information disclosure affects the price of debt or equity financing.

4.3. Robustness checks

4.3.1 Alternative metric for the cost of equity

Alternative measures are used to calculate the cost of equity capital in order to guarantee the robustness and dependability of the findings regarding the influence of ESG performance on business financing operations.We use Ohlson-Juettner (COC-OJ) in this study.

COE_OJ model = $A + \sqrt{A^2 + EPS_1/P_0[g_2 - (y-1)]}$ (2)

In the robustness test, the cost of equity is computed using the O.J. model.The relationship between ESG and COE_OJ is strengthened. The coefficient for ESG and COE_OJ shows negative association and statistically significant at 5%. Furthermore, the results of the COE_MPEG model demonstrated that the ESG coefficient has a negative correlation with COE_MPEG and is statistically significant at the 1% level.

Better ESG ratings are associated with a significant decrease in the cost of equity when using different models, such as the COE_OJ and COE_MPEG Models. These findings show that a significant decrease in the cost of equity is associated with the use of alternative measures of COE with ESG performance.

Table 4-3 Alternative measures of cost of equity

Variables	COE_OJ	COE_MPEG
ESG	-0.007**	-0.001***
	(-2.00)	(-3.17)
LEV	-0.4230***	0.008
	(-9.00)	(0.18)
FS	0.517 ***	-0.116
	(6.15)	(-0.21)
PROFIT	0.031***	-0.036
	(1.94)	(-1.56)
TANG	-0.067**	1.489***

	(-2.91)	(2.64)
TBQ	0.307***	0.699***
	(5.39)	(7.38)
GROWTH	0.351 ***	0.376***
	(7.16)	(5.09)
Constant	-2.964*	-27.896***
	(-1.271)	(-9.53)
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
No of Obs	900	900
R-squared	0.979	0.989

Note: T-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

4.3.2 Instrumental variable (IV) estimation

The robustness checks on endogeneity is undertaken to bolster the study's model integrity, explicitly focusing on the potential endogeneity in the Cost of Equity (COE_PEG). Table (4-4 which displays the results of the first stage of the 2SLS regression analysis, shows that, at a 1% significant level, there is a positive and statistically significant association between the ESG performance and the industry average of ESG performance (AV.ESG). The validity of the chosen instrumental variable was established by these results. The second stage then uses the first model's fitted value of ESG as an independent variable to assess the effect on enterprise financing activity. The same table model indicates that there is a negative and statistically significant relationship between the fitted value of ESG and COE_PEG at the 5% level.

Table 4-4 IV2SLS Regression Results for Robustness Checks

Variables	ESG	COE_PEG
Av. ESG	0.024 ***	
	(6.01)	
ESG		-0.010**
		(-2.98)
LEV	0.394 ***	-0.011
	(7.05)	(-0.19)
FS	-0.063	-1.649***
	(-0.08)	(-2.93)
PROFIT	-0.048 ***	-0.044
	(-2.82)	(-1.78)
TANG	-0.260***	-2.781***
	(-1.29)	(4.92)
TBQ	-0.438 ***	-0.361 ***
	(-8.03)	(-4.76)
GROWTH	0.801***	0.353***
	(6.84)	(4.43)
Constant	8.660***	9.774 ***
	(7.62)	(7.83)
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
No of Obs	900	900
R-squared	0.975	0.262

Note: The following T-statistics are included in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

4.4. **Heterogeneity analysis**

4.4.1. ESG and firm financing cost– Analysis based on firm size

Following the primary examination of the impact of ESG and business financing costs, the study aimed to investigate additional mechanisms that may impact the relationship, starting with the function of firm size. The median of the business size measure and the regression rerun between the two groups were used to separate the sample into large and small firms.

The results presented in table (4-5) results demonstrate negative and statistically 5% significant relationship between ESG, COE_PEG, among large firms. While there were no significant results among smaller firms. Large firms usually have more resources and market power than small firms (Wales et al., 2013). The FS (Firm Size), displays a affirmative and numerically 1% remarkable relationship with COE_PEG among both large and small firms. PROFIT (Firm profitability), exhibits negative relationship with COE_PEG and statistically insignificant among both firms. TANG (Total assets), shows positive influence and 1% statistically significant with COE_PEG among large and small firms, the TBQ (Tobins'q) shows negative relationship with COE_PEG and 5% statistically significant with large firms, while there were no significant results among smaller firms. Lastly, the Growth Rate (GROWTH) exhibits show negative and 5% statistically significant relationship with COE_PEG among large firms, there was positive statistically 1% significant relationship with the small firms.

Table 4-5 Effect of ESG on firm financing cost (Analysis based on Firm size)

Variables	COE_PEG large	COE_PEG small
ESG	-0.005**	-0.007
	(-2.65)	(0.005)
LEV	0.111	0.078
	(1.39)	(1.15)
FS	1.531***	1.316***
	(7.02)	(6.27)
PROFIT	-0.002	-0.005
	(-0.17)	(-0.25)
TANG	0.535***	0.208***
	(6.37)	(7.70)
TBQ	-0.374**	0.052
	(-2.53)	(0.37)
GROWTH	-0.216**	0.232***
	(-6.35)	(3.01)
Constant	-34.900***	-20.333***
	(-6.815)	(-4.026)
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
No of Obs	442	458
R-squared	0.975	0.989

Note: T-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

4.4.2 ESG and firm financing cost– analysis based on state-owned and private companies

The sample was also divided into state-owned and private companies to examine the impact of ESG, firm financing cost reaction among those categories of companies. Heterogeneity analysis for state-owned enterprise shows negative relationship between ESG

and firm financing performance. Moreover, results show statistically 1% significant level between ESG and firm financing cost among state-owned enterprise

The FS (Firm Size), displays a negative and statistically 1% significant relationship with COE_PEG among non-state-owned firms. Meanwhile there was insignificant relationship with state-owned firms. PROFIT (Firm profitability), exhibits negative relationship with COE_PEG and statistically insignificant with state-owned enterprise, meanwhile 5% significant with non-state-owned firms. TANG (Total assets), shows positive influence and 1% statistically significant with COE_PEG non-state-owned firms, the TBQ, (Tobins'q) shows positive relationship with COE_PEG and 1% statistically significant with state-owned firms, while there were no significant results among non-state-owned firms. Lastly, the Growth Rate (GROWTH) exhibits shows positive and 1% statistically significant relationship with COE_PEG among both categories.

Table 4-6 Impact of ESG on corporate finance performance (study of state-owned versus private enterprises).

Variables	COE_PEG State-owned	COE_PEG Non-state-owned
ESG	-0.001***	0.017
	(-3.75)	(-3.26)
LEV	-0.024	-0.043
	(-0.32)	(-069)
FS	3.390	-2.55***
	(1.25)	(-4.67)
PROFIT	-0.037	-0.081**
	(-1.15)	(-2.30)
TANG	-1.874	3.629***
	(-0.68)	(6.52)
TBQ	0.503***	0.942
	(3.87)	(6.61)
GROWTH	0.322***	0.434***
	(3.14)	(3.97)
Constant	-30.461***	-24.175***
	(6.91)	(-5.82)
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
No of Obs	522	378
R-squared	0.975	0.864

Note: T-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

4.5. **Additional analysis**

4.5.1. Regression analysis of ESG firm financing cost and value creation (EPS)

The table's findings indicate a strong and favorable correlation between EPS and ESG. statistically 10% significant relationship. Meanwhile results show that negative and 1% statistically significant relationship between ESP and COE_PEG. Results also demonstrated that ESG*COE_PEG and EPS, at 1% significant level. These findings indicate that better ESG reduced cost of equity correlated with a substantial increase in firm value. Regarding control variables, the findings demonstrated that (LEV), positively influence and statistically insignificant with EPS, The FS (Firm Size), displays a negative and statistically 5% significant relationship with EPS, PROFIT (Firm profitability), exhibits positive relationship with EPS statistically insignificant relationship, Also TANG (Total assets), shows negative influence and 5% statistically significant with EPS, the TBQ, (Tobins'q) shows positive influence and 1% statistically significant with EPS, and the Growth Rate (GROWTH) exhibits positive, and 10% statistically significant relationship with EPS.

Table 4-7 Regression results: ESG, firm financing cost and EPS

Variables	EPS
ESG	0.021*
	(1.93)
COE_PEG	-0.011**
	(-2.34)
ESG*COE_PEG	0.048***
	(10.20)
LEV	0.496
	(1.12)
FS	-3.216**
	(-2.31)
PROFIT	0.097
	(0.95)
TANG	-0.361**
	(-2.35)
TBQ	0.218***
	(2.32)
GROWTH	0.415*
	(1.31)
Constant	37.459
	(1.32)
Industry fixed effects	Yes
Year fixed effects	Yes
No. of Obs	900
R-squared	0.947

Note: T-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 4-8 ESG, firm financing cost and value creation

Variables	TBQ
ESG	0.012***
	(5.68)
COE_PEG	0.127***
	(5.25)
ESG*COE_PEG	0.026***
	(4.27)
LEV	-0.008
	(-0.37)
FS	0.214
	(0.32)
PROFIT	-0.002
	(-0.36)
TANG	0.761***
	(10.21)
GROWTH	0.15**
	(2.25)

Constant	1.609
	(1.34)
Industry fixed effects	Yes
Year fixed effects	Yes
No. of obs	900
R-squared	0.894

Note: The following T-statistics are included in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

Conclusion:

Current research elucidates the correlation between ESG factors and the cost of financing activities of Indian firms. Specifically concentrating on the COE. The research examined the impact of Environment, social and governance and the cost of equity on economic outcomes, utilizing various proxies for value creation, including EPS and Tobin's Q.

The data consistently disclose a considerable negative link between ESG and the firm's financing cost indicator, specifically the cost of equity as assessed by the PEG Model. We employed two unlike models for quantifying the COE, estimated using the O.J. and MPEG Models. The study's contributions surpass theoretical boundaries by offering practical data in the Indian corporate sector. The robustness checks significantly improve the credibility and dependability of the findings of this study. Furthermore, performed further study to assess heterogeneity about two variables: company size and firm nature. The findings collectively indicate that, as demonstrated by a reduced cost of equity, ESG has detrimental and statistically significant effect on corporate financing activities. In pragmatic terms these findings suggest that organizations in India might gain advantages by integrating and prioritizing ESG principles in their operations, enhancing both financial performance and sustainability. The noted decline in the cost of equity indicates that investors may see organizations with stronger Due to the perception of ESG as less risky, the required returns are diminished. Examining ESG elements and the cost of equity in connection to value creation enhances understanding of how sustainable practices can improve financial performance, decrease risk, and bolster business resilience. It directs decision-making about investments, provides factual evidence on the monetary advantages of ESG integration, and facilitates the formulation of policies designed to promote sustainable and inclusive economic growth. Although there are important takeaways from this study, it is intuition to recognize the possibility of industry-specific variances and to persist in examining the complicated interactions between ESG and financing costs in many contexts.

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