"Does Sustainability Assurance enhance the connection between Corporate Governance and Firm Performance in India?"

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DOES SUSTAINABILITY ASSURANCE ENHANCE THE CONNECTION BETWEEN CORPORATE GOVERNANCE AND FIRM PERFORMANCE IN INDIA?

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Abstract

Scholarly attention to the association between corporate governance and firm performance, considering sustainability assurance as a moderator is scarce. This study aims to examine the moderating role of sustainability assurance in the nexus between corporate governance and firm performance in India. The data relating to 35 environmentally sensitive companies among the top 100 National Stock Exchange (NSE) listed entities were gathered from the ProwessIQ Database and annual reports of companies during 2016–2022. The fixed effect regression model was employed. The results show an insignificant effect of board effectiveness on firm performance as measured by return on assets (ROA), return on equity (ROE), and Tobin's Q. Similar findings were documented on the audit committee effectiveness and firm performance nexus, except for Tobin's Q ($\beta = 0.316$). In addition, the study did not support the moderating role of sustainability assurance on the board effectiveness and firm performance nexus, indicating the presence of ineffective corporate governance mechanisms. However, the results show that sustainability assurance significantly and negatively moderates the relationship between audit committee effectiveness and ROA ($\beta = -0.021$), ROE ($\beta = -0.074$), and Tobin's Q ($\beta = -0.996$). This implies that the practice of external assurance of sustainability reports by firms with audit committee effectiveness is an additional burden due to the extra cost involved. Further, the result indicates the learning curve effect among Indian companies. Thus, the findings suggest the need for regulatory focus on encouraging sustainable business practices in terms of effective corporate governance and sustainability assurance.

Keywords corporate governance, board effectiveness, audit committee effectiveness, firm performance, sustainability reporting, sustainability assurance, India

JEL Classification G34, Q56, G32, M14

INTRODUCTION

Given the prominence of sustainable development, the concept of corporate sustainability has gained paramount importance from various stakeholders. Corporate sustainability requires companies to apply corporate governance and risk management principles in integrating economic, environmental, and social factors in their decision-making processes (de Oliveira et al., 2023). However, a significant number of companies collapsed due to the fraud committed by greedy managers, indicating the absence of effective corporate governance systems. This, in turn, alarmed the regulating authorities to bring corporate governance and sustainability disclosure regulations that guarantee stakeholders' protection (Alodat et al., 2022). Similarly, different stakeholder groups' attention to sustainability issues has also intensified in recent years, creating substantial pressure on companies to implement sustainability reporting (Kumar et al., 2022). Further, sustainability assurance by corporate social responsibility (CSR) assurance providers and financial auditors enables transparent communication and improves stakeholders' trust, especially in emerging countries (Oware & Appiah, 2022). As a response, 80% of N100 companies globally disclosed sustainability as of 2020. Correspondingly, the underlying trend relating to sustainability assurance by third parties among the G250 companies has also surged to 71% in 2020 as against 30% in 2005 (KPMG, 2020).

Being one of the world's rapidly growing countries, India has introduced several regulatory reforms to encourage corporate sustainability. With this view, companies are confronted with whether to adopt third-party assurance on sustainability reports, which will further improve firm performance. However, understanding the impact of corporate governance mechanisms on firm performance in the presence of sustainability assurance, particularly of environmentally sensitive and heavy energy-relying companies, is considered inadequate. Hence, scholarly attention to the connection between corporate governance and firm performance with the moderating effect of sustainability assurance requires proper empirical investigation.

1. LITERATURE REVIEW AND HYPOTHESES

The growing importance of corporate governance and its impact on corporate affairs, particularly firm performance, has propelled researchers to understand its dynamics in the corporate world. The agency problem arising out of conflicting interests of various stakeholders results in agency costs, which are deleterious to firm performance. Corporate governance in its various forms is expected to oversee the activities of the entities that can either reduce such agency costs through effective monitoring or increase them through dispossession (Singh & Rastogi, 2023). Interestingly, the scholarly works aligned with this link evidenced mixed findings.

Boshnak (2023) and Mishra et al. (2021) advocated that improved corporate governance practices lead to improved firm performance. This observation is supported by agency theory, which highlights the essential role played by corporate governance in protecting the interests of the shareholders and thereby reducing information asymmetry and agency costs (Alodat et al., 2022; Jiang et al., 2021; Lin & Fu, 2017). On the other hand, Mehrotra et al. (2023) showed that corporate governance practices could hinder firm performance, especially when they are implemented by firms that merely comply with regulatory requirements. The research also evidenced the absence of a strong link between corporate governance and firm performance due to the failure of corporate governance practices of companies to meet the expectations laid down by the regulations (Arora & Sharma, 2016). These inconclusive results could be due to the limited focus on one or a few individual corporate governance indicators rather than considering a single measure that reflected the overall corporate governance system (Mishra et al., 2021). Another reason is the isolated approach in investigating the impact of corporate governance attributes on firm performance without including other mechanisms that significantly affect this association (Alodat et al., 2022; Saleh et al., 2020).

Interestingly, integrating sustainability initiatives with the corporate governance system can be a strategic means to contribute toward better firm performance (Abhilash et al., 2023; Adedeji et al., 2019). The presence of good corporate governance improves firms' profitability and reputation while promoting transparency and ethics (Dongal & Shrestha, 2024; Gerged, 2021). As social responsibility forms the core element of corporate governance, the combined impact of corporate governance and CSR on firm performance was studied. It was observed that the interaction of CSR with certain corporate governance measures like the size of the board, equity concentration, and Chief Executive Officer (CEO) duality drive firm performance. However, the independence and gender diversity on the board did not reveal any significant moderating role in the CSR and firm performance relationship (Pasko et al., 2022). In contrast, gender-diverse boards interact with CSR reports and contribute to better performance (Jiang et al.,

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2021; Saleh et al., 2020). In addition, reporting on sustainability in the form of environmental, social, and governance (ESG) disclosure positively moderates the link between board diversity and firm performance, indicating their induced effect on the companies' operation (Fayyaz et al., 2023).

Another progression of corporate entities toward accountability for sustainability is the assurance of sustainability reports. This has led to the advent of globally recognized standards intended to improve the accountability of corporate organizations toward sustainable development (Perego & Kolk, 2012). Independent assurance of sustainability reports by some external experts, either in the form of "reasonable assurance" or in the form of "limited assurance," provides reliable information for decision-making (Ruhnke & Gabriel, 2013). The assurance providers evaluate the disclosures on sustainability to ensure the supply of quality information to stakeholders. This is supported by agency theory, as assurance enables the communication of credible information and reduces information asymmetry (Moroney et al., 2012).

In addition to enhancing the legitimacy of sustainability reports, sustainability assurance reduces agency costs by acting as an effective corporate governance (Lajmi & Paché, 2020). Considering this, researchers integrated the concept of assurance of sustainability reports and analyzed the substitutability between gender diversity and assurance of value relevance of CSR reporting. It was found that gender-diverse boards substitute CSR assurance (Nekhili et al., 2017). However, the influence of CSR report assurance on firm performance in terms of market valuation elucidated that investors generally do not value such assurance. It was stressed that they view it as an unjustifiable cost unless there are other reasons to enhance the credibility of such disclosures (Cho et al., 2014).

In India, numerous studies have examined how corporate governance impacts firm performance using a variety of corporate governance attributes like board characteristics, audit committee features, and ownership structure, and mixed results have been revealed. The board attributes like size, independence, meetings, and CEO duality were analyzed to determine their impact on firm performance, which showed a positive influence of meetings, whereas a negative influence of size and independence, and no influence of CEO duality (Arora & Bodhanwala, 2018; Kumar & Singh, 2013). The impact of audit committee characteristics like composition and meetings on firm performance was examined, indicating the insignificant role of audit committees on firm performance (Al-ahdal & Hashim, 2022). Corporate governance, measured as an index comprising indicators like board structure and ownership, showed a negative impact on Tobin's Q and a positive impact on ROA (Mishra et al., 2021). Shahwan (2015) did not reflect any significant link between the quality of corporate governance practices measured as an index and firm performance. The practice of sustainability reporting in India surged post-reforms on sustainability reporting but did not significantly influence firm performance (Goel, 2021); in some cases, it showed the negative impact of sustainability reporting on profitability (Laskar, 2019). Taking a step ahead, studies have analyzed how sustainability reporting formats like global reporting initiative (GRI) and business responsibility reports (BRR) impact performance based on the signals they send to the stakeholders (Oware & Worae, 2023). Further, research on CSR assurance found that assurance does not affect the financial distress likelihood of Indian firms but positively affects the stock price returns (Oware et al., 2022b; Oware & Appiah, 2022).

Therefore, a proper understanding of how an effective system of corporate governance influences various dimensions of firm performance in the context of an emerging economy is needed (Jiang et al., 2021; Saleh et al., 2020). In addition, it is believed that corporate governance enables the institutionalization of values alignment among different stakeholders and becomes the starting point for research on CSR (de Graaf & Stoelhorst, 2013). Past studies have analyzed and revealed the positive interactive effect of corporate governance attributes and CSR assurance on the disclosure of social performance. However, research exploring the interaction effect of sustainability assurance and corporate governance on firm performance is scant despite their potential to broaden the horizon of knowledge in the corporate sustainability realm (Abhilash et al., 2023; Lajmi & Paché, 2020; Oware et al., 2022a).

Thus, to fill this research void, this study aims to analyze the impact of corporate governance on firm performance with the moderating effect of sustainability assurance. Therefore, based on the literature review, the following research hypotheses are formulated:

H1: *Effective corporate governance has a significant impact on firm performance.*

H1a: *Effective board has a significant impact on firm performance.*

H1b: *Effective audit committee has a significant impact on firm performance.*

H2: *Sustainability assurance significantly moderates the relationship between corporate governance and firm performance.*

2. METHOD

This study analyzes the data related to the larger NSE-listed companies classified as Environmentally Sensitive Industries (ESI). Following Kumar et al. (2022), a purposive sampling method was adopted to select 38 companies belonging to eight ESI in the NIFTY100 index, shown in Table 1. The reason behind the choice of ESI is the adverse impact they have on sustainable development, which necessitates the adoption of sustainable business practices. The Securities and Exchange Board of India mandated the business responsibility reports for the top 100 listed entities in India in 2012, which was later extended to the top 500 listed companies in 2015 with effect from financial year 2016-17. The study period was chosen from 2016 to 2017 so that all the selected companies fall under the exact regulatory requirements. The companies listed after April 1, 2016, and companies with Differential Voting Rights (DVR) stocks were excluded. This resulted in the retention of a balanced panel data of 35 companies for six years during 2016–2022, containing 210 firm-year observations for the statistical analysis. The data related to corporate governance and sustainability assurance were obtained from the annual reports, corporate governance reports, sustainability reports, and business responsibility reports. The required financial data relating to the companies were collected using the Centre for Monitoring Indian Economy (CMIE) Prowess IQ database.

Table 2 shows the description of the variables used in the study. This study uses firm performance as the dependent variable, measured using operational performance in terms of ROA, financial performance in terms of ROE, and market performance in terms of TQ (Bansal et al., 2021). This will widen the scope of the study by reflecting the impact of corporate governance and sustainability assurance practices on all dimensions of performance outcomes. The independent variable in the study is corporate governance, which is measured using the board of directors effectiveness and the audit committee effectiveness (Alodat et al., 2022; Hoitash et al., 2009). A total of six board-level characteristics, such as board size, gender diversity, board independence, frequency of board meetings, role duality of CEO, and total board committees, were used to measure board effectiveness. Three audit committee characteristics, such as audit committee size, independence, and frequency of audit committee meetings, were used to measure audit committee effectiveness. The non-binary variables were as-

Table 1. Distribution of samples included in the analysis

Sl. No	Industry	No of companies
1	Automobile and Auto Components	10
2	Capital Goods	1
3	Chemicals	2
4	Construction	1
5	Construction Materials	4
6	Fast Moving Consumer Goods	7
7	Metals and Mining	6
8	Oil Gas & Consumable Fuels	7
Total companies in the NIFTY100 index belonging to ESI		38
Exclusions: Companies listed after April 1, 2016, and DVR stocks		3
Total inclusions		35

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signed a score of one if the variable is equal to or above the sample median, and zero otherwise. All the individual scores were then summed to get the composite scores ranging 0-6 for board effectiveness and 0-3 for audit committee effectiveness, with higher scores indicating higher efficiency. The advantage of considering this kind of composite score is that it provides a single score based on peer comparison that helps suitably analyze the effectiveness of the corporate governance of the firms chosen. The moderating variable, sustainability assurance, takes the value one when the firm issues externally assured sustainability reports and zero otherwise. In analyzing the influence of sustainable business practices on firm performance, control variables such as firm size, firm age, leverage, and sales growth were included in the model. Including these firm-level factors, which are considered to influence the dependent variables, reduces the bias and improves the accuracy of the results.

The study used a panel data regression model to test the proposed hypotheses. To choose between the fixed effects and random effects model, the Hausman Test was carried out, which suggested the applicability of the fixed effects model. Accordingly, models (1), (2), and (3) were formulated to examine the impact of board effectiveness and audit committee effectiveness on ROA, ROE, and Tobin's Q, respectively.

$$ROA_{i,t} = \beta_0 + \beta_1 BE_{i,t} + \beta_2 AE_{i,t} + \beta_3 Control\ Variables_{i,t} + \varepsilon_{i,t}, \tag{1}$$

$$ROE_{i,t} = \beta_0 + \beta_1 BE_{i,t} + \beta_2 AE_{i,t} + \beta_3 Control\ Variables_{i,t} + \varepsilon_{i,t}, \tag{2}$$

$$TQ_{i,t} = \beta_0 + \beta_1 BE_{i,t} + \beta_2 AE_{i,t} + \beta_3 Control\ Variables_{i,t} + \varepsilon_{i,t}. \tag{3}$$

Further, to understand whether sustainability assurance moderates the association between corporate governance and firm performance, models (4), (5), and (6) were set out.

$$ROA_{i,t} = \beta_0 + \beta_1 BE_{i,t} + \beta_2 AE_{i,t} + \beta_3 (BE \cdot SA) + \beta_4 (AE \cdot SA) + \beta_5 Control\ Variables_{i,t} + \varepsilon_{i,t}, \tag{4}$$

$$ROE_{i,t} = \beta_0 + \beta_1 BE_{i,t} + \beta_2 AE_{i,t} + \beta_3 (BE \cdot SA) + \beta_4 (AE \cdot SA) + \beta_5 Control\ Variables_{i,t} + \varepsilon_{i,t}, \tag{5}$$

$$TQ_{i,t} = \beta_0 + \beta_1 BE_{i,t} + \beta_2 AE_{i,t} + \beta_3 (BE \cdot SA) + \beta_4 (AE \cdot SA) + \beta_5 Control\ Variables_{i,t} + \varepsilon_{i,t}, \tag{6}$$

where *ROA* is the return on assets, *ROE* represents return on equity, *TQ* is Tobin's Q, *BE* refers to board effectiveness, *AE* represents audit committee effectiveness, *SA* denotes sustainability assurance, *i* represents the firm, *t* is the year and $\varepsilon_{i,t}$ refers to the error term. Control variables represent firm size, firm age, leverage, and sales growth.

Table 2. Variable description

Mnemonic	Variable	Measurement
ROA	Return on Assets	Calculated by dividing net income by the total value of assets
ROE	Return on Equity	Calculated by dividing net income by the total value of shareholders' equity
TQ	Tobin's Q	Total of the market value of equity and book value of short-term liabilities divided by the book value of assets
BE	Board Effectiveness Score	The sum of scores ranging from 0 to 6 using six characteristics of the board (board size, board independence, board gender diversity, number of board meetings held, CEO duality, and board committees)
AE	Audit Committee Effectiveness Score	The sum of scores ranging from 0 to 3 using the three characteristics of the audit committee (size of the audit committee, independence of the audit committee, and the number of audit committee meetings held)
SA	Sustainability Assurance	'1' if the company externally assures its sustainability report, '0' otherwise
FS	Firm Size	Natural logarithm value of total assets
AGE	Firm Age	Total number of years since the incorporation
LEV	Leverage	The ratio of total debt to total assets
SG	Sales Growth	Total sales of the current year minus total sales in the previous year divided by total sales in the previous year

3. RESULTS

Table 3 shows the descriptive statistics of all the variables for firms included in the study. The positive mean values of the three dependent variables indicate that, on average, the firms perform well financially. Additionally, the minimum value of ROA and ROE is negative, indicating the presence of loss-making companies in the sample. The independent variables, board and audit committee effectiveness scores, have a mean value of 3.742 and 1.976, respectively, highlighting that companies under consideration have moderately effective boards and audit committees, given their minimum and maximum values. The differences between the minimum and maximum values of control variables indicate deviations among the companies studied.

To ensure that the results are free from multicollinearity issues and bias, Pearson's correlation coefficients between the explanatory variables are reported in Table 4. All the correlation coefficients are within the threshold limit of 0.8, indicating that the variables are not highly correlated. The absence of multicollinearity is confirmed by the collinearity diagnostic values known as Variance Inflation Factor (VIF) values, which are significantly lower than the permissible level. To ensure that the results are free from heteroskedasticity and autocorrelation problems, the study applied Arellano-robust-standard error-estimation (Arellano, 1987).

Table 5 shows the results of the regression model explaining the direct effect of corporate governance on firm performance. It is found that the board effectiveness has a positive but insignificant impact on ROA (β = 0.001), whereas it has a negative insignificant impact on ROE (β = –0.004) and Tobin's Q (β = –0.188). This indicates that an effective board has no considerable impact on firm performance. On the other hand, audit committee effectiveness has a significant positive influence on Tobin's Q (β = 0.316) at a 5% level of significance, indicating that the market responds positively to the presence of an effective audit committee. The impact of audit committee effectiveness on ROA (β= –0.003) and ROE (β = –0.000) is negative and insignificant, indicating a negligible impact of audit committee effectiveness on the operational and financial performance of companies. Firm size as a control variable significantly and negatively affects all the firm performance measures at a 1% significance level. Age has a positive and sig-

Table 3. Descriptive statistics

Variable	Mean	Median	Minimum	Maximum	Standard Deviation
ROA	0.084	0.062	–0.089	0.329	0.073
ROE	0.182	0.155	–0.480	1.031	0.182
TQ	3.417	1.578	0.294	24.702	4.378
BE	3.742	4.000	1.000	6.000	1.080
AE	1.976	2.000	0.000	3.000	0.741
SA	0.609	1.000	0.000	1.000	0.489
FS	13.205	13.348	10.513	16.567	1.442
AGE	53.471	50.500	9.000	115.000	24.707
LEV	0.520	0.580	0.152	0.855	0.196
SG	0.115	0.081	–0.326	1.367	0.206

Table 4. Correlation matrix

Variable	BE	AE	FS	AGE	LEV	SG	SA	VIF
BE	1.000							1.132
AE	0.237	1.000						1.170
FS	0.192	0.233	1.000					1.711
AGE	0.237	0.245	0.144	1.000				1.141
LEV	0.026	0.019	0.479	0.118	1.000			1.332
SG	0.060	0.033	0.139	–0.094	0.042	1.000		1.041
SA	0.017	0.001	0.421	0.074	0.186	0.100	1.000	1.242

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nificant impact on ROA and Tobin's Q at 5% and on ROE at a 10% significance level, respectively. Leverage also positively and significantly influences ROE and Tobin's Q at a 10% significance level. Sales growth positively affects all firm performance indicators at a 1% significance level. Therefore, hypothesis 1, concerned with the direct effect of corporate governance as proxied by board effectiveness and audit committee effectiveness on firm performance, is rejected.

Table 5. Regression results of the impact of corporate governance on firm performance (Direct relationship)

Variable	ROA	ROE	TQ
Constant	0.816***	1.588***	25.280***
BE	0.001	–0.004	–0.188
AE	–0.003	–0.000	0.316**
FS	–0.084***	–0.227***	–3.870***
AGE	0.006**	0.024*	0.439**
LEV	0.035	0.568*	10.957*
SG	0.039***	0.100***	1.195***
Adjusted R-squared	0.248	0.237	0.315

Note: *** indicates statistical significance at 1% ($p < 0.001$), ** indicates statistical significance at 5% ($p < 0.05$), and * indicates statistical significance at 10% ($p < 0.01$).

The moderation regression analysis was carried out to understand the moderating role of external assurance of sustainability reports, as shown in Table 6. The result posits that sustainability assurance's interaction with board effectiveness has a significant positive impact only on ROA ($\beta = 0.011$). In contrast, it is insignificant for ROE and Tobin's Q, indicating the absence of a moderating role of assurance in those cases. The findings of the interaction effect of sustainability assurance and audit committee effectiveness on all three performance metrics, ROA ($\beta = -0.021$), ROE ($\beta = -0.074$), and Tobin's Q ($\beta = -0.996$) showed a significant negative impact at a 1% significance level. This confirms the moderating role of assured sustainability reports in the audit committee effectiveness and firm performance nexus. The noteworthy point here is that after moderation, the adjusted R^2 value increased from the earlier findings on direct effect. Overall, the result after the interaction of sustainability assurance with corporate governance, implies that the model explains around 31%, 28%, and 39% of the variations in ROA, ROE, and Tobin's Q, respectively. Interestingly, with the interaction effect, the co-efficient values of both explanatory and control variables have increased, which strongly highlights the significance of the moderating role of sustainability assurance. Therefore, the predicted hypothesis 2 concerned with the moderating role of sustainability assurance on the nexus between corporate governance and firm performance is accepted.

Table 6. Regression results of the moderating effect of sustainability assurance on the relationship between corporate governance and firm performance

Variable	ROA	ROE	TQ
Constant	0.789***	1.529***	23.412***
BE	–0.003	–0.012	–0.258
AE	0.007	0.041*	0.847***
SA	–0.025	–0.003	–1.065
BE*SA	0.011*	0.026	0.357
AE*SA	–0.021***	–0.074***	–0.996***
FS	–0.086***	–0.234***	–4.075***
Age	0.007**	0.026**	0.509**
LEV	0.062	0.630*	13.010**
SG	0.039***	0.104***	1.201***
Adjusted R-squared	0.319	0.285	0.390

Note: *** indicates statistical significance at 1% ($p < 0.001$), ** indicates statistical significance at 5% ($p < 0.05$), and * indicates statistical significance at 10% ($p < 0.01$).

4. DISCUSSION

Since India is experiencing a transitional period from voluntary to mandatory assurance of sustainability reports, there is a need to understand the impact of sustainability assurance on corporate governance and firm performance relationships to ensure the overall sustainability of corporate entities. The descriptive statistics depicted that the minimum score of board effectiveness and audit committee effectiveness is 1 and 0, respectively, and the mean values are 3.7 and 1.9, respectively, indicating that, on average, only a marginal level of corporate governance exists among the sample firms over the selected years. Further, the results indicate the direct impact of board effectiveness on the performance of firms in ESI is insignificant. The findings align with the previous studies that measured the impact of corporate governance practices on firm performance (Arora & Bodhanwala, 2018; Kumar & Singh, 2013; Saleh et al., 2020).

In addition, the results on the impact of audit committee effectiveness on firm performance did not show any significant evidence except for Tobin's Q. This finding is in tandem with past studies (Al-ahdal & Hashim, 2022; Aldamen et al., 2012; Fariha et al., 2022). The rationale behind this insignificant effect of both board effectiveness and audit committee effectiveness is due to the lack of effective corporate governance mechanisms in the companies. The significant positive impact of audit committee effectiveness on Tobin's Q highlights that the market highly values firms with effective audit committees as they instill a sense of transparency and control. This observation is in line with Al-ahdal and Hashim (2022).

With the introduction of assurance of sustainability reports as a moderator, the coefficients of board effectiveness on all the firm performance measures improved. However, it is insignificant for ROE and Tobin's Q. Notably, the impact was significant in the case of ROA, indicating that the combination of an effective board of directors and externally assured sustainability reports would lead to better firm performance by enabling operational efficiency and better decision-making. Similar observations were obtained in past scholarly works (Alipour et al., 2019; Pasko et al., 2022).

On the other hand, the interaction of assured sustainability reports with audit committee effectiveness showed significant negative results in all cases. This could be due to multiple reasons. It has been observed that the composition and performance of the audit committee, particularly the chairperson, do not meet the stakeholders' expectations, which tends to impact firm performance negatively (Fariha et al., 2022). Halkos and Skouloudis (2016) believe that firms belonging to ESI are more likely to disclose sustainability. They do so as they are under pressure to disseminate their sustainability issues to their stakeholders (Prashar, 2021). In addition, the unfavorable impact could also be due to the negative influences sustainability reporting and its assurance have on performance. Moreover, CSR assurance exerted a significant adverse effect on sustainability-related reporting and the market value of firms. This unfavorable effect of sustainability assurance indicates that the market negatively values the assurance practices of entities (Lajmi & Paché, 2020). The negative impact on other performance metrics may point out that implementing effectiveness in audit committees and publishing assured reports on sustainability is costly. Thus, it is perceived that having a well-established internal control system in the form of an audit committee and external assurance mechanisms in the form of sustainability assurance is a burden for companies in the short run due to the enormous cost involved, which leads to the suppression of firm performance.

The results of control variables, particularly age, demonstrated a significant positive effect, indicating that older and well-established firms benefit more in terms of profitability. Moreover, leveraged firms experience a significant positive impact on ROE and Tobin's Q. Sales growth also has a significant favorable influence on firm performance, as greater sales lead to greater profitability and market value. These findings align with previous studies (Boshnak, 2023; Mehrotra et al., 2023; Pasko et al., 2022). Meanwhile, firm size showed a significant negative effect on firm performance, indicating that a larger company in terms of total assets requires huge finance allocation, leading to lower firm performance (Lin & Fu, 2017).

Overall, this study confirms the moderating role played by sustainability assurance on the relationship between corporate governance and firm performance. It suggests that in the short run, especially when the regulations related to sustainability reporting are evolving, the impact of sustainable business practices on firm performance is negative or insignificant. Moreover, such an insignificant impact could also be due to the learning curve effect. However, in the long run, the results could be favorable when stakeholders realize the importance of such efficient and sustainable business practices. Thus, the study recommends that regulators must reinforce effective corporate governance mechanisms and bring awareness among stakeholders about sustainability disclosures and their assurance alongside imposing mandatory norms (Pasko et al., 2022).

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CONCLUSION

This study intended to examine the effect of corporate governance on firm performance with the moderation effect of sustainability assurance. The results revealed that the connection between corporate governance and firm performance of environmentally sensitive Indian firms is weak. Further, firms with audit committee effectiveness tend to perform lower with the moderation of sustainability assurance. The study exerted a positive but insignificant effect of assurance on the relationship between board effectiveness and firm performance. Thus, the study inferred that considering internal efficiency, the assurance of sustainability reports does not significantly benefit firm performance.

The study accounted for a moderate level of corporate governance in terms of board effectiveness and audit committee effectiveness in environmentally sensitive Indian companies. The regulatory bodies are required to shift their attention to implementing effective corporate governance practices. In addition, the negative influence of sustainability reporting assurance indicates that, in the short run, the cost of such actions may go beyond the benefits derived from it. The results corroborate the idea that investors are required to be educated on the importance of sustainability reporting and their assurance to enable them to make the right decisions. At the same time, it assists corporate entities in realizing that mere reporting or assurance of sustainability practices does not add remarkable performance rewards; instead, they need to look beyond that.

Thus, there is a need for future research to understand this complex and sensitive relationship from the perspective of a longer time horizon, including samples from diverse sectors. In addition, knowing how sustainable corporate actions contribute to overall sustainable development goals would be a fruitful research avenue. Despite considering a smaller sample and period, this study sheds light on the intricate association between novel sustainable corporate practices in an emerging country context.

AUTHOR CONTRIBUTIONS

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