

Board Composition, ESG Disclosure Quality, and Firm Valuation

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Abstract

The relationship between corporate governance quality, environmental-social-governance (ESG) disclosure, and firm valuation has attracted growing regulatory attention globally following SEBI's Business Responsibility and Sustainability Reporting (BRSR) mandate for the top 1,000 NSE-listed firms from FY2022-23. This study examines how board composition characteristics — specifically board independence ratio, gender diversity (proportion of women directors), audit committee financial expertise, and the presence of a sustainability committee — influence ESG disclosure quality scores and whether superior disclosure quality generates a statistically significant Tobin's Q premium in Indian listed firms. Using a balanced panel of 186 NSE-listed firms across six sectors (FMCG, pharmaceuticals, IT services, manufacturing, financial services, infrastructure) over 2017-2023 (seven annual periods, 1,302 firm-year observations), we estimate system GMM models that address endogeneity concerns inherent in governance-performance research. ESG disclosure quality is measured through a purpose-built 48-item index constructed from BRSR and predecessor Business Responsibility Report (BRR) disclosures. Results indicate that board independence ($\beta = 0.31, p < 0.01$) and women director proportion ($\beta = 0.24, p < 0.05$) significantly predict ESG disclosure quality, while sustainability committee presence has the strongest individual effect ($\beta = 0.44, p < 0.001$). A one-standard-deviation improvement in ESG disclosure quality is associated with a 0.14-point Tobin's Q premium ($p < 0.01$), representing approximately ₹840 crore in incremental market capitalisation for a median-sized firm in our sample. The premium is significantly larger in ESG-sensitive sectors (FMCG, pharmaceuticals) than in infrastructure and manufacturing, reflecting investor heterogeneity in ESG integration across sectors.

Keywords: corporate governance, ESG disclosure, Tobin's Q, board composition, gender diversity, BRSR, SEBI, Indian listed firms, system GMM, sustainability committee, firm valuation

1. Introduction

India's corporate governance landscape underwent significant transformation between 2013 and 2023: the Companies Act 2013 mandated independent director requirements and audit committee composition rules; SEBI's Listing Obligations and Disclosure Requirements (LODR) Regulations 2015 introduced women director requirements; and the BRSR framework, phased in from 2021-22, established the most comprehensive mandatory non-financial disclosure framework in India's regulatory history. These regulatory developments create a natural laboratory for examining the relationships between governance structure, disclosure quality, and capital market outcomes — relationships that are theoretically motivated by agency theory, stakeholder theory, and increasingly by empirical evidence from developed markets that ESG integration affects institutional investor portfolio construction.

The Indian context differs from developed-market precedents in several important respects: family business group ownership remains prevalent among NSE-listed firms (approximately 60% have promoter shareholding above 50%); the institutional investor base integrating ESG systematically into investment processes is growing but remains less mature than in European or North American markets; and the BRSR framework itself is new enough that disclosure quality variance across firms remains substantial, enabling statistical identification of quality effects that would be attenuated in more uniform disclosure environments. These features make Indian listed firms a particularly valuable setting for examining governance-ESG-valuation relationships at an early stage of ESG institutionalisation.

Three research questions drive this investigation: (1) Which board composition characteristics most strongly predict ESG disclosure quality in Indian listed firms? (2) Does ESG disclosure quality generate a statistically significant Tobin's Q

premium after controlling for endogeneity? (3) Does the disclosure quality-valuation relationship vary systematically across sectors with different ESG salience?

2. Theoretical Background

2.1 Agency Theory and Board Monitoring of Disclosure

Agency theory predicts that boards with greater independence — measured by the proportion of non-executive, non-promoter directors — will exercise stronger monitoring of management's disclosure decisions, reducing the information asymmetry between insiders and outside shareholders. Independent directors without business relationships with management have stronger incentives to enforce comprehensive disclosure of ESG risks and opportunities, since their reputational capital is associated with governance quality rather than management relationship maintenance. Women directors have been theoretically and empirically linked to stronger CSR orientation in multiple national contexts (Post, Rahman & Rubow, 2011; Bear, Rahman & Post, 2010), consistent with gender socialisation arguments that predict greater stakeholder orientation among female directors.

2.2 ESG Disclosure and Valuation Mechanisms

Three mechanisms link ESG disclosure quality to firm valuation. First, information asymmetry reduction: higher-quality ESG disclosure reduces investors' cost of assessing non-financial risks, lowering required returns and thereby increasing the present value of expected cash flows. Second, stakeholder relationship quality: firms that credibly disclose ESG performance attract customers, employees, and suppliers with complementary values, generating operational advantages that translate to long-run cash flows. Third, ESG risk mitigation: firms that disclose comprehensively are more likely to have the management systems that actually reduce ESG risks — regulatory penalties, reputational crises, resource inefficiencies — creating an empirical rather than purely signalling-based valuation benefit.

3. Data and Research Design

3.1 Sample and Data Sources

The sample comprises 186 NSE-listed firms continuously listed from 2017 to 2023 across six sectors, selected by stratified random sampling from the NSE 500 index constituent list as of April 2017, with financial firms and those undergoing insolvency proceedings excluded. Board composition data were hand-collected from annual reports and BSE/NSE corporate filings; ESG disclosure quality scores were constructed by two independent coders from BRSR/BRR disclosures with inter-rater reliability $\kappa = 0.82$ (substantial agreement per Landis & Koch, 1977); financial data were sourced from CMIE Prowess DX.

3.2 ESG Disclosure Quality Index

The 48-item ESG Disclosure Quality Index (EDQI) was developed through a multi-stage process: item identification from BRSR framework requirements, GRI Standards, and TCFD recommendations; expert validation by a panel of six ESG analysts from leading asset management firms; and pilot coding of 20 annual reports to refine operationalisation guidelines. Items are scored 0 (not disclosed), 1 (partially disclosed, qualitative only), or 2 (fully disclosed, quantitative with assurance), yielding a maximum score of 96, normalised to 0-100. The EDQI captures breadth (number of items disclosed) and quality (quantification and assurance level).

3.3 Econometric Approach

The system GMM estimator (Blundell & Bond, 1998) is applied to address the dual endogeneity concern: governance characteristics may be endogenous to past performance (successful firms recruit better boards), and disclosure quality may be endogenous to firm characteristics that independently predict valuation. System GMM instruments the levels equation with lagged differences and the differences equation with lagged levels, using instruments dating to t-2 and t-3 for all governance and disclosure variables. Hansen J-test and Arellano-Bond AR(2) test statistics are reported to validate instrument exogeneity.

4. Results

4.1 Board Composition and ESG Disclosure Quality

Figure 1 presents the three-panel results. Panel A shows the distribution of EDQI scores by sector and year, confirming significant improvement over the sample period (sector-mean EDQI increased from 38.4 in 2017 to 67.2 in 2023, reflecting BRSR mandating effects) and substantial cross-firm variance within each year. FMCG and pharmaceutical sectors consistently show the highest EDQI scores; infrastructure and manufacturing show the lowest. Panel B presents the scatter plot of board independence ratio versus EDQI, with fitted lines disaggregated by promoter ownership quartile — confirming that the independence-disclosure relationship is strongest in low-promoter-ownership firms where independent director agency is least constrained. Panel C presents Tobin's Q distributions by EDQI quartile, with higher-quality disclosers exhibiting systematically higher Q values across all years.

Fig. 1. (A) ESG Disclosure Quality Index by Sector and Year (2017-2023); (B) Board Independence vs. EDQI by Promoter Ownership Quartile; (C) Tobin's Q Distribution by EDQI Quartile

Table 1 presents the system GMM results for the two-stage model: Stage 1 (EDQI as dependent variable) and Stage 2 (Tobin's Q as dependent variable, with predicted EDQI from Stage 1). The Hansen J-test ($p = 0.214$) and AR(2) test ($p = 0.387$) confirm instrument validity.

Table 1. System GMM Results: Board Composition → ESG Disclosure Quality → Tobin's Q

Variable	Stage 1 β	SE	Stage 2 β	SE	Sig.
Board Independence Ratio	0.31	0.09	—	—	**
Women Director Proportion	0.24	0.11	—	—	*
Audit Committee Fin. Expertise	0.18	0.08	—	—	*
Sustainability Committee	0.44	0.10	—	—	***
EDQI (predicted)	—	—	0.14	0.05	**
Promoter Ownership	-0.22	0.08	-0.09	0.04	**
Firm Size (log assets)	0.19	0.07	0.06	0.04	ns
Hansen J-test (p-value)	0.214		0.387 (AR2)		

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; ns = not significant; $n = 186$ firms, 7 years (1,302 firm-year observations); Year and sector fixed effects included; System GMM with instruments at $t-2$ and $t-3$

4.2 Sector Heterogeneity in Valuation Premium

The ESG disclosure-to-Tobin's Q premium exhibits significant sector heterogeneity: the EDQI coefficient in sector-stratified models is 0.21 ($p < 0.01$) for FMCG and 0.18 ($p < 0.05$) for pharmaceuticals, but only 0.08 (ns) for infrastructure and 0.06 (ns) for manufacturing. This pattern is consistent with consumer-facing sectors facing reputational ESG exposure that is priced by markets — FMCG firms facing consumer activism and pharmaceutical firms facing patient welfare scrutiny — versus infrastructure and manufacturing where institutional investor ESG integration is less developed and government procurement, the primary revenue source, is less sensitive to disclosure quality.

5. Discussion

The finding that sustainability committee presence has the strongest effect ($\beta = 0.44$) among all board composition predictors — exceeding even board independence — suggests that structural formalisation of ESG board-level oversight

generates greater disclosure commitment than general independence alone. This is consistent with delegation and specialisation arguments: a dedicated sustainability committee provides a governance venue in which ESG disclosure receives dedicated attention from directors with relevant expertise, creating accountability that general board oversight of ESG does not. The valuation premium of 0.14 Tobin's Q per standard deviation of EDQI improvement, while economically meaningful (approximately ₹840 crore for a median NSE 500 firm), is smaller than comparable estimates from European markets (0.22-0.31 Q units, per Friede, Busch & Bassen, 2015 meta-analysis), consistent with the less mature ESG integration of Indian institutional investors but suggesting growing convergence as BRSR mandating progresses.

The promoter ownership moderation of the independence-disclosure relationship raises important regulatory design questions. SEBI's current independent director requirements focus on numerical thresholds (minimum one-third of the board) without addressing the quality of independence under high-promoter-concentration ownership structures, where nominally independent directors may have social or business ties to controlling families. Future regulatory reform could usefully introduce disclosure requirements for independent director nomination processes and time-in-role tenure limits that limit independence erosion over time.

6. Conclusion

This study demonstrates that board composition characteristics — particularly sustainability committee presence, board independence, and women director proportion — significantly predict ESG disclosure quality in NSE-listed Indian firms, and that superior disclosure quality generates a statistically significant Tobin's Q valuation premium after addressing endogeneity through system GMM estimation. The valuation premium is concentrated in consumer-facing sectors with higher ESG salience, suggesting investor heterogeneity in ESG integration that may narrow as institutional mandates mature. SEBI's BRSR mandate, by reducing minimum disclosure quality floors, should accelerate convergence of Indian ESG valuation premiums toward developed-market benchmarks. Firms seeking to maximise governance-ESG-valuation linkages should prioritise sustainability committee formation alongside board independence enhancement.

References

- [1] Bear, S., Rahman, N., & Post, C. (2010). The impact of board diversity and gender composition on corporate social responsibility and firm reputation. *Journal of Business Ethics*, 97(2), 207-221.
- [2] Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87(1), 115-143.
- [3] Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment*, 5(4), 210-233.
- [4] Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33(1), 159-174.
- [5] Post, C., Rahman, N., & Rubow, E. (2011). Green governance: Boards of directors' composition and environmental corporate social responsibility. *Business & Society*, 50(1), 189-223.
- [6] Securities and Exchange Board of India. (2021). Business Responsibility and Sustainability Reporting (BRSR) Framework. SEBI Circular SEBI/HO/CFD/CMD-2/P/CIR/2021/562.
- [7] Securities and Exchange Board of India. (2015). SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015. SEBI Gazette Notification.
- [8] Sharma, V. D., & Kuang, C. (2014). Voluntary audit committee characteristics, incentives, and aggressive earnings management. *Journal of Accounting and Public Policy*, 33(2), 124-151.
- [9] Srinidhi, B., Gul, F. A., & Tsui, J. (2011). Female directors and earnings quality. *Contemporary Accounting Research*, 28(5), 1610-1644.
- [10] Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of Financial Economics*, 40(2), 185-211.