PRESENT IN THE BOARDROOM, MISSING IN THE DISCLOSURES: CMAs, ESG INTEGRATION AND SUSTAINABLE FINANCE IN INDIAN CORPORATE TREASURY

Abstract

The data is taken from public secondary data for 30 companies in the non-financial manufacturing sector of NIFTY 500 selected randomly from the universe of non-financial manufacturing companies (FY2022-23 to FY2025-26). Half the Chief Financial Officers (55.6%) have a cost or management-accounting qualification, while 7 of 28 companies report environmental, social and governance (ESG) practices in their management-accounting practices. For exploratory tests, none of the qualifications are significantly associated with these practices, and none of these practices or sustainable debt or Business Responsibility and Sustainability Report (BRSR) Core assurance are significantly associated with Tobin's Q.



Dr. Adithya Bhatt Prathikantam
Corporate Professional
Hyderabad
adithyabhatt.01@gmail.com



CMA (Dr.) Gaddam Naresh Reddy
Professor of Commerce
Osmania University
Hyderabad
gaddamnareshreddy@osmania.ac.in

1. Introduction

Costing, performance-measurement and investment-appraisal systems rely on management accountants to design the systems through which environmental, social and governance (ESG) commitments enter the decisions (Schaltegger & Burritt, 2010), while sustainability-linked loans rely on credible key performance indicators (KPIs) that are monitored against targets (Aleszczyk et al., 2026). However, there is little qualitative evidence of who is responsible for this integration (Egan & Tweedie, 2018). The aim is to check whether: (i) CFOs holding a cost qualification or a management-accounting qualification are more associated with disclosure of ESG integration into accounting practice? (ii) disclosure of ESG integration into accounting practice is more associated with Tobin's Q? and (iii) Tobin's Q is more associated with labelled sustainable debt and BRSR Core assurance? The feasibility study aims to determine if these constructs are measurable using public data and the associations are preliminary in nature and do not necessarily apply to Indian companies. This is called 'missing in the disclosures' as it is

not practiced by companies and internal records are not observed.

2. Regulatory context

The Business Responsibility and Sustainability Report (BRSR) was made mandatory for the top 1000 listed companies by Securities and Exchange Board of India (SEBI) during FY2022-23 (SEBI, 2021). The requirements for reasonable assurance are extended to the top 150 listed entities for FY2023-24, and top 250, 500 and 1000 will be extended over the next three years (SEBI, 2023), and the assessment against the Industry Standards Forum standards is an alternative since March 2025 (SEBI, 2025). The engagement requires the skills of the sustainers and is not limited to any accounting profession. The use of the word "required" is not an argument, but as a strengthener of the internal measurement and controls on which assurance and assessment rely the use of management-accounting expertise.

3. Theory and hypotheses

From a resource-based perspective, a finance function that integrates environmental risks into valuation and correlation between carbon targets and incentives is a valuable and hard-to-imitate capability that helps to drive competitive advantage (Barney, 1991). There is a weak positive correlation between ESG performance and financial outcomes (Friede et al., 2015) and corporate green bond announcements trigger positive returns (Flammer, 2021). All labelled debt is in the form of loans or facilities, while use-of-proceeds instruments (green bonds and loans) provide funding for eligible projects, and sustainability-linked loans and bonds have terms linked to performance targets. The following five null hypotheses are stated:

H_{01}: Sustainable debt has no relationship with Tobin's Q.

H_{02}: Sustainable debt is not associated with the cost of debt (not tested: 45 firm-years only).

H_{03a}: There is no link between CFOs who are certified by the CMA and a higher Management Accounting – Sustainability Integration Index (MASII).

H_{03b}: Both the qualification of MASII and the qualification of CMA are not linked with Tobin's Q.

H_{04}: There is no correlation between BRSR Core reasonable assurance and Tobin's Q.

4. Data and method

4.1 Sample and sources

The sampling frame used is the NIFTY 500 listing on 11th October 2026. Excluding 98 financial companies and three real estate investment trusts, 400 companies were split into 18 environmentally sensitive industry companies and 12 other industry companies with the remaining 30 drawn at random (seed 20261011). Not available pre-listing years (Table-1). No attempt is made to reconstruct the historical constituents as this would create a survivorship bias (or look-ahead bias) that is studied by removing the four companies that were listed after April 2022. Data source are results of the National Stock Exchange (NSE), BRSR filings in XBRL (eXtensible Business Reporting Language), closing prices of NSE and annual reports for FY2024-25. Every source is referenced using the URL, access date and file hash, and is checked for accuracy in Section 4.4.

Table-1. Sample flow

Step	Firm-years
Possible firm-years (30 firms × 4 years)	120
Less: no audited March-year results (not yet listed / calendar-year filer)	-10
Firm-years with Tobin's Q	110
Less: BRSR not filed on NSE (firm-years with Q)	-3
Firm-years with Q and BRSR	107
Less: emissions missing / set missing (implausible scale, zero placeholder)	-5
Panel regression sample (models 1-3)	102

Controls: all 110 firm-years with Q; cost of debt: 45; MASII and CFO: FY2024-25 only (28 and 27 firms). Firm-years that are missing represent listing dates, non-filing or data errors (Supplementary File S1).

4.2 Variables

The Tobin's Q is an approximation of Chung and

Pruitt (1994), (market capitalisation + current and non-current borrowings + non-controlling interest) ÷ total assets, not based on replacement cost; market capitalisation is based on the last closing price of the March and the shares at year-end, and lease liabilities are not included. The regressions are based on the ln Q winsorised at the 1st/99th percentile limits (Table-3). CFO_CMA (broad) is a 1 if the annual report, Reg. 30, prospectus or the company website or US SEC report states that a CFO is a member of the Institute of Cost Accountants of India (ICMAI), a Cost Accountant, or a member of ICMA Australia or a member of the Institute of Management Accountants (IMA) (examinations completed); CFO_CMA (strict) counts only admitted members of ICMAI or IMA. Disclosed qualifications are accepted and not verified as being current; undisclosed is missing. The "proxies" are not experts in ESG or decision making about ESG; they are experts in management accounting. The seven practices that are explicitly reported in the FY2024-25 annual reports (Table-2) are weighed as 0, and all practices are equally weighted due to a lack of weight information in literature. MASII was a measure of integration, not actual implementation or whether the management accountants did it. BRSR Core status is not determined by general 'assured' labels where such labels may indicate other verification, such as reasonable assurance, assessment, or neither; ASSURED only includes reasonable assurance in the BRSR Core. The top 150 firms by market cap in FY2023-24 (based on average ranks from AMFI) are mandated firm-years (11 out of 12 sample firms). A firm's non-assurance of a phase is not considered non-compliance. SF_ADOPT indicates the outstanding labelled sustainable debt. Size, leverage, cash, capex, environmentally-sensitive industry and public-sector (PSU) status are controls.

Table-2. MASII practices, FY2024-25

Item	Practice	Firms (of 28)
M2	Internal carbon price	1
M4	ESG criterion in capital allocation	3
M5	ESG targets in budgets/ scorecards	1
M6	ESG KPIs in senior-management appraisal or pay	4
M7	Environmental cost accounting	1
M8a	Climate-scenario analysis	4
M10	Finance monitoring of sustainable-finance KPIs	0

Items are coded according to the code book. The rules are included in Appendix A2 and the examples are included in Supplementary File S2.

4.3 Coding verification

All hand coded values (CFO qualification and MASII items, 28 companies) were cross checked by the second author, independently, against the source documents, outlined in the written codebook; discrepancies were sorted through by referring back to the original filings, and the codebook was updated when rules were ambiguous. In the confirmatory study, formal inter-coder reliability statistics will be reported.

4.4 Data audit

In 39 of 114 firm-years, BRSR turnover is more than double the audited revenue, and intensities are calculated based on audited revenue (FY2021-22 to FY2025-26). Emissions differ from the next year's restated figure by over 5% or a unit factor in 12 of 106 core-window firm-years; as-reported values are retained. Removing the company at an intensity bound of 5,000 tonnes CO2e per ₹ crore (a sample-based screening system was doubled to include the highest carbon-intensive legitimate producer, which is a lignite power producer, 2,391) left results unchanged (Table-5). All 44 corrections and flags are listed in Supplementary File S3.

4.5 Estimation

The models are regressions of ln Q on ASSURED (and SF_ADOPT) with control and year effects (pooled) and with firm and year effects. Fixed-effects model (using within-firm differences) is the main model of inference (coefficients are associations rather than casual effects) but pooled models are retained to describe between-firm differences. All standard errors are clustered at the firm level; there are 29 clusters, and p-values

and 95% confidence intervals have been calculated using the t(G − 1) method, with the wild cluster restricted bootstrap method (Cameron et al., 2008; Rademacher, 4,999 draws). The level of evaluation of hypotheses is 5% (two-sided). The cross-section (Mann–Whitney, Fisher exact, linear probability and ordinary least squares with HC3 robust errors) H_{03a} and H_{03b} are tested in FY2024-25. Power is the minimum detectable effect (MDE) for a binary regressor, MDE = (z0.975 + z0.80) × SD(ln Q) ÷ √[n·p·(1 − p)], with n = 27, p = 0.556 and SD(ln Q) = 0.667 (5% two-sided, 80% power).

5. Results

Table-3. Descriptive statistics (firm-years)

Variable	N	Mean	SD	Median
Tobin's Q	110	2.79	2.02	2.24
ln Q (winsorised)	102	0.80	0.72	0.86
Reasonable assurance	108	0.49	0.50	0.00
Sustainable debt	120	0.07	0.25	0.00
ln total assets	110	9.80	1.41	9.58

The sequence of items is in order of the codebook. The rules are found in Appendix A2 and examples are in Supplementary File S2.

Reasonable assurance rises from 12 firms in FY2023-24 to 24 in FY2025-26, with assessments from FY2024-25 (Figure- 1). Three companies have sustainable debt (Larsen & Toubro, Power Grid and UPL) with labels.

Figure- 1. BRSR Core status of all 30 sample firms by year.

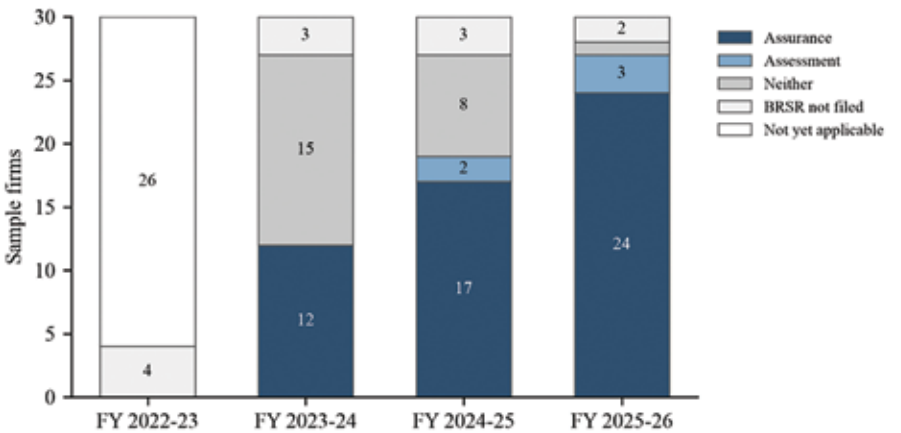


Table-4. Panel regressions of ln Q (H_{01}, H_{04})

ln Q	(1) Pooled	(2) Pooled + debt	(3) Fixed effects
Assurance	0.409 (0.210)	0.407 (0.209)	0.009 (0.073)
Sustainable debt	—	0.305 (0.292)	—
95% CI, assurance	[-0.02, 0.84]	[-0.02, 0.83]	[-0.14, 0.16]
Bootstrap p, assurance	0.149	0.148	0.879
N (firms); R^2	102 (29); 0.51	102 (29); 0.52	102 (29); 0.96

All models include controls and year effects and cluster-robust SEs are in parentheses.

In the pooled model, assurance is positively correlated (about 51%) with the control, but the result is

not statistically significant at 5% level (p = 0.062, t-based, 95% CI -0.02 to 0.84, p = 0.149, bootstrap), and the estimate is almost zero within the firms. This inter-firm relationship can be an indication of variables that were not captured in the design and which are inherent in the firm and not temporal. There is no evidence of assurance improving firm value, H_{04} is not rejected. The test is not powerful, three adopters provide little power to the test; the null hypothesis is not rejected (H_{01}), as sustainable debt is insignificant (b = 0.305; bootstrap p = 0.39). The pattern persists for robustness checks (Table-5) when only mandated years of data are used, the pooled estimate is 0.22.

Table-5. Robustness of the assurance coefficient

Specification	Pooled b (p)	Fixed effects b (p)
Baseline	0.41 (0.06)	-0.02 (0.77)
Assessments counted	0.41 (0.09)	-0.01 (0.94)
Mandated firm-years only	0.22 (0.41)	-0.12 (0.25)
Excluding post-2022 listings	0.44 (0.05)	-0.02 (0.81)
Implausible emissions retained	0.36 (0.10)	-0.02 (0.77)
No emissions control	0.33 (0.13)	—

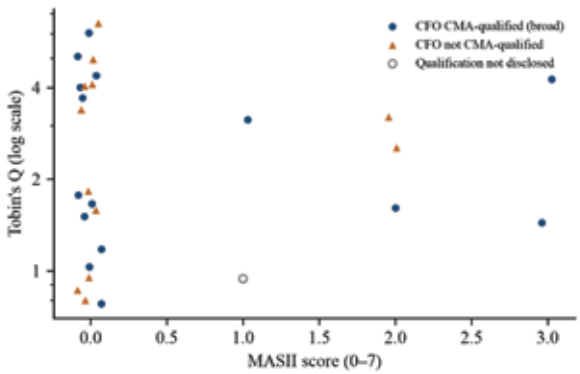
p is t(G − 1)-based. The emissions control (up to 107 firm-years) is not included in the fixed-effects rows.

15 out of 27 identifiable CFOs (or 55.6%) are CMA-qualified (broad) while 11 (or 40.7%) are strict. 10 out of 22 private companies (45.5%) have CFOs who are CMA qualified while all five PSUs have CMA qualified CFOs. 21 companies get a 0 out of 28 on MASII. The difference in MASII between CFOs with and without CMA qualifications is not significant (H_{03a} not rejected) and there is no association between the MASII and qualification (H_{03b} not rejected; Table-6, Figure- 2). The sample has an MDE of 0.72 log points, that is, effects less than about a doubling of Q would not be detectable; the results are not an absence of an effect but rather lack of sufficient evidence.

Table-6. Cross-sectional tests, FY2024-25 (H_{03a}, H_{03b})

Test	Estimate	p
MASII mean, CMA vs other CFOs	0.60 vs 0.33	0.52
Any practice, CMA vs other	27% vs 17%	0.66
Linear probability: any practice on CFO_CMA	0.222	0.26
ln Q on MASII	0.090	0.60
ln Q on CFO_CMA	0.188	0.54

Figure- 2. MASII, CFO qualification and Tobin's Q, FY2024-25.



6. Implications for CMAs

Based on the descriptive evidence, CMAs can do a number of things before the assurance or the assessment, including (i) ESG data governance: apply reconciliation and internal controls to error-prone BRSR metrics; (ii) carbon-cost measurement: internal carbon pricing (one company); (iii) capital budgeting: incorporating carbon cost and climate scenarios (three companies); (iv) sustainability-linked finance: set performance targets and track them; and (v) performance management: cascade ESG targets into budgets and appraisal.

7. Limitations and future research

The sample is small and the qualification of CFO and MASII is one year. Tenure of the CFOs and prior sustainability experience are not observed and the current-list frame may cause look-ahead bias, the mandate indicator is a proxy, and the associations are

correlational. If the non-financial companies in the NIFTY 500 index had independent double coding of the same 400 companies in a future study, the MDE would be reduced to around 0.19 log points (≈ +21% in Q).

8. Conclusion

Although a higher proportion of CFOs are CMA qualified, very few report having integrated ESG into their disclosure and there are no rejections of any of the tested null hypotheses. The constructs can be measured from public data, a larger study would be needed for sufficient power. MA

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Appendix A1: Sample companies and coded values, FY2024-25

Company	CFO CMA (broad/strict)	MASII	BRSR Core
ACC	1/1	3	Assurance
Afcons Infrastructure	1/0	0	Neither
Alkem Laboratories	0/0	0	Assurance
Anthem Biosciences	—	—	Not filed
Bata India	0/0	0	Neither
Bharat Dynamics	1/1	0	Assurance
Bharat Petroleum Corporation	1/1	0	Assurance
E.I.D. Parry (India)	0/0	0	Neither
Elecon Engineering Co.	1/1	0	Assurance
Endurance Technologies	1/0	1	Assurance
Indraprastha Gas	0/0	0	Assurance
Infosys	1/0	0	Assurance
International Gemmological Institute	—	—	Not filed
Jupiter Wagons	0/0	0	Neither
L&T Technology Services	0/0	0	Assurance
Larsen & Toubro	1/1	2	Assurance

Lodha Developers	0/0	2	Assurance
Mahanagar Gas	1/0	0	Assessment
NLC India	1/1	0	Assurance
PI Industries	1/1	3	Assurance
Power Grid Corporation of India	1/1	0	Assessment
Prime Focus	0/0	0	Neither
RITES	1/1	0	Assurance
Redington	0/0	0	Neither
Sai Life Sciences	1/1	0	Not filed
Tata Consumer Products	0/0	2	Assurance
The Ramco Cements	0/0	0	Neither
Timken India	1/1	0	Neither
UPL	n.d.	1	Assurance
United Breweries	0/0	0	Assurance

— = not available; n.d. = qualification not disclosed.

Appendix A2: MASII coding rules

Item	Coded 1 only if the annual report discloses	Example
M2	An internal or shadow carbon price used in appraisal, costing or sourcing.	ACC: USD 28/tCO_2 guides investment (pp. 67, 100)
M4	A stated mechanism bringing ESG criteria into capex approval.	UPL: lowest-footprint project approval (p. 64)
M5	Quantified ESG targets cascaded into unit budgets or scorecards.	PI Industries: KPIs in business-unit head appraisals (p. 261)
M6	ESG metrics in senior-management pay or KPIs; plans under rollout excluded.	Larsen & Toubro: ESG KPIs in appraisal (p. 221)
M7	Environmental costs tracked or impacts valued in money; energy costs excluded.	Tata Consumer: impacts valued financially (p. 124)
M8a	Named climate scenarios (e.g., RCP, SSP) disclosed.	Lodha: SSP2 and SSP5 scenarios (p. 27)
M10	Finance tracking of use of proceeds or sustainability-linked targets.	None in sample

Partial or aspirational statements are coded 0.

Obituary



CMA N. L. Venkatarangan

With profound grief and sorrow, the Institute and its Members mourn the sad demise of CMA N. L. Venkatarangan, a distinguished member of the Mysuru Chapter of the Institute, who passed away on 30 October 2026.

He served Syndicate Bank (now merged with Canara Bank) for over 20 years. He was known for his meticulous approach to work, dedication and gentle demeanour.

We pray to the Almighty to grant eternal peace to the departed soul and strength to the family to bear this irreparable loss.