Department of Land Economy

Environment, Law & Economics

UNIVERSITY OF CAMBRIDGE

Real Estate Research Centre

Working Paper Series

No. 2025-04

Title: Beyond the ESG Facade: Measuring and Addressing Corporate "Lip Service"

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Beyond the ESG Facade: Measuring and Addressing Corporate "Lip Service"

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Abstracts:

With increasing global attention on ESG issues, the quality of corporate ESG disclosures has become more critical. However, many firms show a disconnect between stated commitments and actual actions, engaging in what we term "Lip Service" behavior. Using a sample of Chinese firms that issued social responsibility reports from 2006 to 2022, this study constructs a novel "Lip Service" index to quantify the gap between ESG disclosures and real practices. We examine its industry, spatial, and temporal distributions, revealing how regional and sectoral differences shape corporate ESG behavior. Our findings show that "Lip Service" significantly reduces firm value, while external oversight mechanisms (media, analysts, institutional investors) and internal governance measures (CEO compensation incentives) help mitigate this effect. Additionally, factors such as industry pollution levels, ownership structure, business risk, and the tone of annual reports influence the severity of this behavior. Beyond firm value, we find negative impacts on financial performance indicators, including earnings per share, net profit, and corporate reputation. These insights highlight the need for regulators to enhance ESG disclosure consistency and transparency, while encouraging stakeholders to play a more active supervisory role in promoting sustainable corporate practices.

Keywords: ESG disclosure; Corporate value; ESG performance; Textual analysis

1. Introduction

The greenhouse effect, extreme weather, and pollution from fossil fuels, driven by climate change, increasingly threaten the global economy (Nordhaus, 2019). In response, international standards such as the United Nations Principles for Responsible Investment (UNPRI), the Global Reporting Initiative (GRI), and the Sustainability Accounting Standards Board (SASB) have been introduced. Governments and regulators have also strengthened ESG disclosure requirements to promote sustainable

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development. For example, the European Union's Sustainable Finance Disclosure Regulation (SFDR), enacted in 2021, mandates financial market participants and advisors to disclose their ESG policies and performance, thereby enhancing transparency in sustainable finance. In recent years, China has made significant progress in developing its ESG disclosure framework, driven by the "dual-carbon" goals and capital market reforms. ESG reporting, as an extension of Corporate Social Responsibility (CSR) and Socially Responsible Investment (SRI), now covers environmental protection, social responsibility, and corporate governance. Since 2006, the Shenzhen Stock Exchange (SZSE) and the Shanghai Stock Exchange (SSE) have required listed companies to publish CSR reports alongside their annual reports. Over 16 years, from 2006 to 2022, the number of A-share companies issuing corporate social responsibility reports increased from 19 to 1,535.[4] These efforts align China with international sustainability standards while enhancing transparency in CSR and capital markets.

However, challenges persist in ESG reporting. Differences in regional standards and the lack of consistent quantitative indicators make it difficult for companies to disclose ESG information uniformly. Discrepancies in ESG ratings from different agencies further complicate investors' ability to assess corporate sustainability (Avramov et al., 2022). Low-quality ESG disclosures are also associated with higher default risks (Li et al., 2022) and inefficiencies in capital allocation. Additionally, many firms' ESG data are not independently audited, raising concerns about the accuracy and reliability of reported information (Friede, 2019). Companies often selectively disclose favorable ESG information, potentially misleading investors. Given that ESG performance has become a key factor in investment decisions, the quality of ESG disclosures directly influences firms' financing costs and market competitiveness. Therefore, further research into the relationship between ESG disclosure quality and firm value is essential to improving transparency and guiding better disclosure practices.

The existing literature on ESG disclosure primarily examines its economic consequences and potential negative incentives from various perspectives. Some studies, based on information transfer theory, suggest that ESG disclosure enhances firm value (Aboud & Diab, 2018) and financial performance (Chen & Xie, 2022) while reducing tail risks and the likelihood of stock price crashes (Shafer & Szado, 2019). However, other scholars argue that firms may conceal unfavorable ESG information. Hemingway and Maclagan (2004) highlight that companies often engage in

[4] Data source: 2024 ESG White Paper (https://cn.ceibs.edu/sites/portal.prod1.dpmgr.ceibs.edu/files/2024%20ESG%E7%99%BD%E7%9A%AE%E4%B9%A6%EF%BC%88%E5%8D%95%E9%A1%B5%E7%89%88%E5%B0%8F%E6%96%87%E4%BB%B6%EF%BC%89.pdf)

greenwashing by exaggerating or selectively presenting ESG data to create a misleading impression of sustainability (Netto et al., 2020). This deceptive practice undermines disclosure credibility and misleads stakeholders. To mitigate greenwashing, both internal governance and external monitoring mechanisms are crucial. Internally, board diversity—such as a higher proportion of female directors, age diversity, and diverse educational backgrounds—has been shown to reduce such practices (Chen et al., 2023). Externally, greater transparency, the presence of independent directors, and institutional investor involvement can also curb greenwashing effectively (Wu et al., 2020; Yu et al., 2020).

Although previous studies have explored the economic consequences, motivations, and determinants of ESG disclosure, a critical research gap remains: the relationship between “dummy for wordy and actless” behavior (hereinafter referred to as “Lip Service”) and corporate value—particularly whether ESG disclosures genuinely reflect firms' actual ESG practices. Corporate value serves as a key measure of an enterprise’s overall performance and long-term sustainability, influencing investor decision-making, financing capacity, and market competitiveness. Compared to other financial metrics, corporate value provides a more comprehensive reflection of market expectations regarding a firm’s future growth potential and operational stability. It encapsulates not only a snapshot of current performance but also a firm’s long-term strategy, governance, market perception, and actual ESG efforts. Therefore, examining the impact of "Lip Service" on corporate value is crucial for understanding market responses to such behavior and identifying the risks it may pose. This study focuses on analyzing the impact of "Lip Service" behavior on firm value and regulatory mechanisms, providing policy recommendations to enhance ESG transparency and reliability, thereby fostering a healthier market environment.

Our research makes three key contributions. First, at the data level, most existing textual analyses focus on only one aspect of ESG—either environmental, social responsibility, or corporate governance. However, given the increasing sophistication of ESG policies, analyzing a single dimension fails to capture the full scope of ESG performance. To address this, we construct an innovative keyword thesaurus that covers all three dimensions, enhancing both the precision and scope of textual analysis. Second, at the dimension level, much of the literature primarily focuses on environmental greenwashing, overlooking systematic exploration of the social and governance dimensions. By developing comprehensive ESG indicators, we provide new insights into information asymmetry, assessing the consistency between corporate disclosures and actual practices across all ESG dimensions. Furthermore, we systematically investigate the spatial distribution of four distinct ESG disclosure patterns. Third, at the mechanism level, while most studies emphasize external supervision, less attention has

been given to internal monitoring. We compare the effects of both external and internal oversight, with a particular focus on the role of ESG fund investors in monitoring corporate behavior. This comparison enriches the theoretical understanding of how internal and external governance mechanisms shape ESG disclosure practices. Additionally, we extend our analysis by examining firm characteristics and the tone of annual reports in our heterogeneity analysis, offering deeper insights into the motivations behind firms' ESG disclosure strategies. Our findings provide a valuable foundation for policymakers and regulators seeking to improve ESG reporting standards and mitigate the risks associated with misleading disclosures.

The remainder of this paper is structured as follows: Section 2 reviews the relevant theoretical background and develops the research hypotheses. Section 3 presents the model construction and variable selection, followed by an explanation of data sources and descriptive statistics. Section 4 reports the empirical findings, including robustness tests, heterogeneity analyses, and further exploration of "Lip Service" behavior in ESG reporting. Section 5 concludes with policy implications and recommendations for improving ESG transparency and mitigating misleading disclosures.

2. Theoretical Hypotheses

2.1 ESG Report Disclosure Quality and Firm Value

The existing literature indicates that high-quality ESG disclosure has a positive impact on firm value (Li et al., 2018). The key mechanisms through which this occurs include reducing information asymmetry, improving corporate efficiency, and lowering financing costs. First, information asymmetry increases uncertainty in economic transactions, making it essential to obtain comprehensive information to make informed decisions (Goldstein and Yang, 2015). ESG disclosures, as a complement to financial data, help reduce this asymmetry by providing a fuller picture of the firm’s operations (He et al., 2022). This reduction in information asymmetry decreases investor uncertainty and firm-specific risks, leading to an enhancement in firm value.

Second, adequate ESG disclosure builds trust between firms and stakeholders. By providing clear and reliable information, companies can better align with market expectations and reduce uncertainty about future risks. This, in turn, helps optimize resource allocation and improves decision-making efficiency, thereby boosting operational performance and corporate value (Xie et al., 2019). Moreover, as ESG performance becomes a focal point in both bond and equity markets, companies that disclose ESG information more transparently are seen as more reliable and well-governed, with reduced risk profiles (Galema et al., 2008). This improves their reputation, lowers perceived investment risks, and facilitates better financing

conditions, which contributes to long-term value growth (Wong et al., 2021).

However, due to the imperfection of the disclosure system and the non-uniformity of the disclosure standards, the quality of ESG reports varies, with some enterprises making formalized disclosures only to comply with the system's requirements and lacking in substance (Netto et al., 2020). Furthermore, certain companies deliberately present an inflated or misleading picture of their ESG performance to project a positive image (Kim and Lyon, 2015). Such practices not only undermine the credibility of disclosures but also obscure the true challenges the firm may face in areas like environmental responsibility or corporate governance, making it harder for investors to assess the firm accurately. This exacerbates market opacity and increases information asymmetry (Cui et al., 2018).

Investors often react strongly when actual corporate performance fails to meet the expectations set by ESG disclosures (Hirshleifer et al., 2011). If a significant gap is detected between what firms disclose in their ESG reports and their real-world operations, investors may reevaluate the firm’s prospects, leading to stock price volatility and a loss of confidence. In extreme cases, this could even trigger regulatory investigations or lawsuits, further damaging the firm's market value and reputation. Therefore, we propose the following hypothesis:

Hypothesis 1: The behavior of "Lip Service" in ESG report disclosure can have a negative impact on corporate value.

2.2 External Monitoring Mechanisms, ESG Report Disclosure Quality and Corporate Value

When disclosing ESG information, firms often face expectations from multiple stakeholders, including the market, investors, and society. External monitoring mechanisms can exert pressure on firms to enhance the transparency and accuracy of their disclosures, thereby curbing malpractices such as misrepresentation or concealment (Yuan et al., 2022). Based on stakeholder theory, we examine the roles of media, analysts, and institutional investors. The media expose corporate misconduct through reporting, analysts provide professional insights that influence investor decisions, and institutional investors maintain continuous oversight through their financial and governance power. These three monitoring entities provide a comprehensive framework for exploring strategies to mitigate the impact of "Lip Service" behavior on firm value.

First, from the perspective of media monitoring, media coverage acts as an external governance mechanism that can influence corporate reputation by revealing misconduct (Wang and Ye, 2015). Corporate reputation, regarded as a valuable

intangible asset, directly impacts investor trust and market stability. When companies proactively disclose negative events, it signals responsibility and risk management capabilities, which can repair and even enhance market reputation (Reimsbach et al., 2018). In contrast, when the media expose inaccurate ESG disclosures, it magnifies damage to the firm's social image and investor confidence, resulting in a negative impact on firm value (Wong and Zhang, 2022). Therefore, media monitoring pressures firms to be more cautious and transparent in their ESG disclosures to avoid negative publicity, reduce information asymmetry, and mitigate the adverse effects on firm value.

Second, from the analysts' perspective, analysts serve as "information intermediaries" in the capital market, influencing investors' decisions through their research reports and market forecasts (Luo and Wang, 2015). By analyzing and monitoring firms' ESG performance, analysts can identify discrepancies or risks in disclosures. For example, if a company claims environmental leadership but faces pollution violations, analysts may expose these contradictions based on their research and professional reputation (Huang et al., 2018). Such revelations can directly affect investor trust and lead to fluctuations in market valuation. As independent third-party reviewers, analysts help limit management's ability to engage in fraud or misrepresentation, thereby improving disclosure transparency (He et al., 2022). To avoid negative ratings or reports from analysts, firms are likely to adopt more prudent ESG disclosure practices, reducing the risk of inaccurate reporting and market volatility.

Finally, institutional investors play a significant role in influencing corporate behavior. As major stakeholders, institutional investors can impact a firm's economic and social responsibility performance through their investment decisions (Rong et al., 2017; Dyck et al., 2019). With the increasing focus on sustainability, these investors are incorporating ESG criteria into their investment strategies, encouraging firms to enhance their ESG transparency (Zhang and Zhang, 2024). Institutional investors also exert influence through shareholder meetings and voting rights, demanding that firms align their ESG disclosures with actual practices to avoid reputational risks. ESG fund investors, in particular, place significant emphasis on high-quality ESG performance and conduct strict screenings to identify companies that engage in "Lip Service" behavior. This investment scrutiny incentivizes firms to improve disclosure quality, lower financing costs, and enhance competitiveness (Chen and Xie, 2022).

In summary, effective external monitoring can improve ESG disclosure quality, mitigate "Lip Service" behavior, and reduce financing risks, leading to the following hypotheses:

Hypothesis 2a: Media attention can mitigate the negative impact of ESG disclosure's "Lip Service" behavior on corporate value.

Hypothesis 2b: Analysts' attention can mitigate the negative impact of ESG disclosure's "Lip Service" behavior on corporate value.

Hypothesis 2c: Institutional investor ownership can mitigate the negative impact of ESG disclosure's "Lip Service" behavior on corporate value.

2.3 Internal Oversight Mechanism, ESG Report Disclosure Quality and Corporate Value

Unlike external supervision, internal oversight exerts direct and continuous influence, effectively ensuring that management's actions align with short-term performance and long-term corporate goals (such as fulfilling social responsibilities). This section focuses on the impact of CEO compensation incentives, management shareholding, and CEO-chair duality on the relationship between "Lip Service" behavior and corporate value.

First, CEO compensation incentives serve as a key internal control tool, but traditional compensation structures often focus on short-term gains, such as salary and bonuses. This can lead management to prioritize short-term profits over long-term investments, even at the expense of the firm's future growth (Tosi et al., 2000). To address this issue, linking compensation to long-term goals has been shown to reduce principal-agent conflicts and discourage short-termism that harms long-term value (Coles et al., 2006). When ESG performance is integrated into compensation, it not only encourages management to focus on sustainability but also promotes active participation in long-term strategy development (Ikram et al., 2023). By tying compensation to ESG objectives, management's interests align with those of long-term stakeholders, thus reducing self-interested behavior driven by short-term pressures (Flammer et al., 2019). This helps mitigate reputational risks associated with inconsistent or inaccurate ESG disclosures.

Second, management shareholding complements compensation incentives by directly linking management's wealth to the company's long-term performance (Edmans et al., 2017). This long-term alignment makes management more sensitive to firm-wide performance, including ESG metrics, and fosters a stronger sense of responsibility (Rath et al., 2020). With a personal stake in the company's success, management is more likely to ensure the accuracy and authenticity of ESG disclosures, protecting the interests of investors and stakeholders (Hussain et al., 2018). Thus, management shareholding not only enhances the effectiveness of traditional compensation mechanisms but also strengthens the internal supervision of ESG objectives.

Finally, in some firms, the CEO also holds the role of board chair, a structure known as "CEO duality." This governance model can reduce internal communication barriers and

information asymmetry between management and the board, facilitating smoother decision-making (Krause et al., 2014). It enhances managerial authority and ensures greater alignment between strategic decisions and execution, contributing to more consistent and truthful ESG disclosures (Hahn et al., 2014). Moreover, in a rapidly evolving ESG landscape, where disclosure standards are continually updated, this two-position model enables firms to quickly adapt and respond to changes in regulatory requirements (Grewal et al., 2021). However, CEO duality may weaken board independence, leading to less effective oversight and increased skepticism about the accuracy of ESG disclosures (Michelon et al., 2015). Therefore, firms adopting this governance model must reinforce other governance mechanisms to maintain the credibility of their ESG reports.

In summary, internal oversight is vital for enhancing ESG disclosure quality and mitigating "Lip Service" behavior. Thus, we propose the following hypotheses:

Hypothesis 3a: CEO compensation incentives can mitigate the negative impact of ESG disclosure's "Lip Service" behavior on corporate value.

Hypothesis 3b: Management shareholding can mitigate the negative impact of ESG disclosure's "Lip Service" behavior on corporate value.

Hypothesis 3c: The CEO duality can mitigate the negative impact of ESG disclosure's "Lip Service" behavior on corporate value.

3. Model Construction and Variable Selection

3.1 Model construction

Based on the theoretical framework, our empirical research proceeds in two main steps: First, we examine the impact of "Lip Service" behavior in ESG disclosure on corporate value. Second, we explore the mechanisms through which this behavior affects firm value, as well as its moderating effects. The research design follows this logical structure.

We posit that the "Lip Service" behavior in the ESG disclosure of enterprises will have a negative impact on corporate value, and take all enterprises that disclose social responsibility reports as a sample, and refer to the model construction method of Aouadi and Marsat (2018) and Buchanan et al. (2018) construct the following model:

$$TBQ_{i,t} = \beta_1 + \beta_2 Lip\ Service_{i,t} + \rho X_{i,t} + \alpha_i + \gamma_t + \tau_j + \varepsilon_{i,t} \qquad (1)$$

Where i represents the firm and t represents the year, TBQ is the Tobin's Q value of firm i in year t, the variable Lip Service (*LS*) represents the firm's "Lip Service"

behavior, $X_{i,t}$ is a series of control variables, α_i, γ_t, and τ_j correspond to the individual, time, and industry fixed effects, respectively, and $\varepsilon_{i,t}$ is a random perturbation term. If the coefficient β_2 is significantly negative, it indicates that corporate ESG disclosure "Lip Service" behavior has a negative impact on corporate value. Since the industry characteristics, macroeconomic environment and other time-varying factors that are not taken into account may also affect the enterprise value, we uniformly add industry fixed effects and time fixed effects to the model to control.

3.2 Variable Measurement

3.2.1 Enterprise value

Following the work of Ghoul et al. (2017), we use Tobin's Q as an indicator of long-term enterprise value. Tobin's Q not only reflects the relationship between a firm's current book assets and its market value but also incorporates discounted future cash flows. Compared with short-term performance metrics like Return on Assets (ROA) or Return on Equity (ROE), Tobin's Q captures market expectations of long-term growth and future profitability. This makes it a more forward-looking indicator and a suitable proxy for enterprise growth. Tobin's Q is calculated as:

$$TBQ = Market\ capitalization/(Total\ assets - Net\ intangible\ assets - Net\ goodwill) \quad (2)$$

In addition, the calculation of market capitalization takes into account the A-share companies and the companies' holdings of B-shares, which are converted into RMB at the year-end exchange rate, and the total market capitalization is obtained based on the corresponding share price and the number of outstanding shares.

3.2.2 Degree of ESG Information Disclosure

The theory of information asymmetry highlights the uneven distribution of information between firms and their stakeholders, wherein companies often possess superior knowledge about their ESG practices while stakeholders depend on selective disclosures (Al Natour A R et al., 2022). This asymmetry enables firms to engage in "Lip Service," presenting ESG disclosures that emphasize policies and commitments over substantive actions. To quantify this behavior, prior studies have used textual analysis to assess the quality of ESG disclosures from dimensions such as content, type, and performance (Campopiano and De Massis, 2015; Michelon G et al., 2015; Arvidsson S et al., 2022). For instance, Yu et al. (2020) proposed a "greenwashing" index to capture the gap between ESG disclosure scores and actual ESG performance. Drawing on these studies, this research constructs a comprehensive ESG disclosure index to measure verbosity and assess its alignment with actual corporate behavior.

Keywords were identified based on core ESG policy documents, including the *Environmental Protection Law of the People's Republic of China*, the *Guidelines for the Preparation of China's Corporate Social Responsibility Reports*[5], and the *Corporate ESG Evaluation System*[6]. Additionally, the construction standards from prominent ESG rating agencies, such as the China Securities ESG Rating and SynTao Green Finance ESG Rating, were referenced. These keywords were categorized into three dimensions: environment**,** social responsibility, and corporate governance**.**

To calculate the relevance of disclosed keywords, this study applies a weighted term frequency-inverse document frequency (TF-IDF) method, as proposed by Loughran and McDonald (2011). This approach adjusts raw word frequencies for their importance across the dataset. The weighting formula is defined as:

$$\omega_{it} = \begin{cases} \frac{(1+log(tf_{c,i}))}{(1+log(l_i))} log \frac{N}{df_c} & , \quad if \quad tf_{c,i} \geq 1 \\ 0 & , \quad otherwise \end{cases} \tag{3}$$

Where N is the number of all CSR reports in the corpus; df_c is the number of CSR reports in the corpus that contain the term c; $tf_{c,i}$ is the raw word frequency of CSR reports of company i that contain the term c; and li is the total number of words in CSR reports of company i.

This weighting approach ensures that frequently mentioned but generic terms are down-weighted, while less common but meaningful terms receive higher importance. The weighted frequencies are then normalized for each dimension (environment, social responsibility, and governance) by dividing by the total word count of the CSR report. The overall ESG disclosure index is computed as the sum of normalized scores across all three dimensions:

$$ESG_{wordratio_{\{it\}}} = E_{wordratio_{\{it\}}} + S_{wordratio_{\{it\}}} + G_{wordratio_{\{it\}}} \tag{4}$$

Where:

$$\mathrm{X\_wordratio_{it}} = \frac{\sum_{c \in X} \omega_{c,i}}{l_i}, \quad X \in \{E, S, G\} \tag{5}$$

This disclosure index captures the extent to which a firm's ESG reporting is focused on

[5] The Guidelines for the Preparation of China's Corporate Social Responsibility Reports, published by the Chinese Academy of Social Sciences (CASS), and the CASS-CSR version 4.0, released in 2019, provide detailed descriptions and regulations on the content of ESG disclosures by companies, including specific disclosures on the environment, society, and corporate governance.

[6] The Corporate ESG Evaluation System was released by the China Enterprise Reform and Development Research Institute (CERDI) and will be implemented from January 1, 2023 onwards. The system provides a clear framework and guidance for ESG disclosure by enterprises, covering specific evaluation indicators and requirements in environmental protection, social responsibility and corporate governance.

verbosity versus substantive relevance. By integrating keyword relevance with textual length normalization, this measure identifies instances of corporate "Lip Service" in ESG disclosures, offering a robust foundation for evaluating disclosure practices (Zhang Y et al., 2020; Huang P et al., 2022; Friede G et al., 2020).

3.2.3 Actual corporate ESG actions

Previous research on corporate ESG performance often relies on ESG report disclosures or social responsibility investment indicators (Awaysheh A et al., 2020; Pedersen L et al., 2021; Reber B et al., 2022). However, these methods are constrained by the voluntary nature of disclosures, which limits their ability to fully capture actual corporate actions. ESG ratings offer a more comprehensive tool, evaluating performance across dimensions such as sustainable development, social responsibility, and environmental management (Friede G et al., 2020). Accordingly, many studies have adopted ESG ratings as proxies for corporate ESG actions (Nirino N et al., 2021; Chen et al., 2023; Mu W et al., 2023).

Despite their advantages, ESG ratings vary across agencies due to methodological differences, with some focusing on policies rather than measurable outcomes (Avramov et al., 2022). To address these inconsistencies, this study employs ESG rating data from the CNRDS database. The CNRDS framework adheres to international standards and evaluates dimensions such as "climate change and environmental risks," "employee rights and social contributions," and "investor relations and governance risks." Its emphasis on actionable indicators makes it a reliable measure of actual ESG performance. Validated in prior studies (Houston J F and Shan H, 2022; Ahn B H et al., 2024; Zeng H et al., 2024), the CNRDS database provides robust metrics to assess whether firms exhibit the "lack of action" phenomenon. This approach ensures an accurate reflection of corporate ESG performance.

3.2.4 The behavior of "Lip Service" in ESG report disclosure

Firstly, we determine whether a company is "wordy" based on its ESG information disclosure compared to its industry peers. Using the constructed ESG disclosure indices for the three dimensions ($E\_wordratio_{it}$, $S\_wordratio_{it}$ and $G\_wordratio_{it}$), we create three dummy variables: WordyE, WordyS and WordyG. For example, in the case of environmental information, if the environmental disclosure index of company i in year t is higher than the industry median for that year, $WordyE_{(i,t)}$ is set to 1, indicating that the company is "wordy" in terms of environmental disclosure. Conversely, if it is below the median, $WordyE_{(i,t)}$ is set to 0, indicating "less wordy." The same approach is applied to social responsibility and corporate governance, creating $WordyS_{(i,t)}$ and $WordyG_{(i,t)}$ respectively. Finally, if all three dummy variables are 1 (i.e., $WordyE_{(i,t)} = 1$, WordyS(i,t)

= 1, and $WordyG_{(i,t)}$ = 1), the composite wordiness dummy variable Wordy(i,t) is set to 1, indicating that the company is "wordy" in its ESG disclosures for that year. If any of the variables is 0, $Wordy_{(i,t)}$ is set to 0, indicating "less wordy."

Secondly, we assess whether a company is "actionless" based on its ESG rating. A dummy variable, Actless, is constructed. If the ESG rating of company i in year t is below the industry median for that year, it indicates that the company is "actionless" ($Actless_{(i,t)}$ = 1). If it is above the median, the company is considered to be "action-oriented" ($Actless_{(i,t)}$ = 0).

Finally, we combine the assessment of "words" and "actions". If $Wordy_{(i,t)}$ = 1 and $Actless_{(i,t)}$ = 1, the company is considered to exhibit "Lip Service" behavior in ESG information disclosure, and it is assigned a "Lip Service" (*LS*) variable.

3.2.5 Control variables

Drawing from previous studies (Kim et al., 2021; Wu et al., 2022), various factors related to a company's operational characteristics and corporate governance may influence firm value. Therefore, we control for the following variables. In terms of operational characteristics, we include firm size (*Size*), leverage ratio (*Lev*), return on assets (*ROA*), operating cash flow (*Cash*), and capital intensity (*Capital*) to account for the company's efficiency in capital utilization, profitability, cash flow management, and financing capacity. On the corporate governance side, we control for the shareholding of the largest shareholder (*ShrHolder1*) and the proportion of independent directors (*PID*) to measure the governance capability of shareholders and the supervisory effectiveness of external directors.

3.3 Data sources and descriptive statistics

Since the Shenzhen Stock Exchange first issued regulations on the disclosure of social responsibility reports in 2006, China's ESG policies have entered a developmental phase starting from that year. Thus, we select the period from 2006 to 2022 as our sample interval. This timeframe not only captures the transition from voluntary to gradually mandatory ESG disclosures but also reflects how companies adapted to evolving regulatory requirements. Our sample consists of listed companies that published social responsibility reports between 2006 and 2022. The data were processed as follows: companies with abnormal statuses, such as those flagged as ST or *ST, were excluded, along with those missing key variables. Ultimately, 9,689 observations were retained. Social responsibility reports were sourced from CNINFO, while other data were obtained from the Wind database and the China Research Data Services Platform (CNRDS).

Descriptive statistics show that the main variable, Tobin's Q, ranges from a minimum of 0.6318 to a maximum of 34.0567, indicating significant disparities in the market's valuation of different firms' asset values. The mean value of the "Lip Service" variable is 0.0581, with a relatively large standard deviation (0.2339), highlighting the widespread phenomenon of "Lip Service." This gap may stem from inefficiencies in internal controls and incentive mechanisms, resulting in insufficient implementation of ESG practices.

Table 1 Descriptive statistics of the main variables

Variable	Observations	Mean	Std. Dev.	Min	Max
TBQ	9,689	2.2875	2.0521	0.6318	34.0567
LS	9,800	0.0581	0.2339	0	1
Size	9,481	23.3821	1.7577	18.2659	31.3101
Lev	9,800	0.4973	0.2156	0.0080	2.2901
ROA	9,800	0.0389	0.1622	-14.3018	0.6042
Cash	7,855	20.4259	1.9169	10.7531	28.0742
Capital	9,479	0.2112	0.1813	0.0002	0.9542
ShrHolder1	9,481	0.3625	0.1616	0.0300	0.8999
PID	9,378	3.6368	0.2313	2.0402	4.6052

3.4 Temporal and Spatial Distribution of the "Lip Service" Index

3.4.1 Temporal Distribution of the "Lip Service" Index

We calculate the industry annual average values of the "Lip Service" index and rank them to observe trends across different years and industries[7]. Figures 1 and 2 show the distribution of the top five and bottom five ranked industries based on the index.

From a temporal perspective, the "Lip Service" phenomenon is influenced by policy and market conditions. During the 2008–2009 global financial crisis, economic downturns intensified profit pressures, leading companies to increasingly rely on information disclosure to project their social responsibility image. Due to weak regulation and high disclosure freedom, some companies exaggerated commitments,

[7] The industry classification in this paper is based on the "Industry Classification Guidelines for Listed Companies" published by the *China Association of Listed Companies*.

while actual actions lagged, increasing the prevalence of the phenomenon. However, with the 2015 revision of the Environmental Protection Law of China and the adoption of the Paris Agreement, disclosure requirements became stricter, transparency improved, and ESG disclosures were standardized, resulting in a significant reduction in "Lip Service." However, with the rise of ESG investments in 2017, companies faced greater pressure to attract capital through ESG disclosures, leading some to fail to align actions with commitments, causing a resurgence of the phenomenon.

From an industry distribution perspective, Agriculture exhibits the highest proportion of the "Lip Service" phenomenon compared to other industries, with significant occurrences also found in industries such as Water Conservancy, Construction, Mining, and Finance[8]. These industries, with high resource intensity, emissions, or dependence on capital markets, face substantial external regulatory pressures and societal expectations, causing a disconnect between disclosures and actions. Notably, industries like Water Conservancy, Construction, and Mining, as heavily regulated sectors, often make prominent commitments in ESG reports to address environmental and social responsibilities. However, technical constraints, high emissions reduction costs, and short-term profit pressures often lead them to prioritize publicity over actual actions. Increased disclosure requirements and management costs have further exacerbated the severity of this phenomenon in these industries.

The industries at the bottom of the ranking include Retail, General Services, Transport, Real Estate, and Leasing, whose annual average of "Lip Service" is generally low, primarily due to their industry characteristics. Specifically, these industries have a strong service orientation, with corporate social responsibility largely focused on business ethics, customer rights protection, and service fairness. Even the Transport, which has some environmental pollution characteristics, shares similar service-oriented traits with other sectors, all belonging to the service-driven tertiary industry. Therefore, companies in these industries face greater oversight pressure from consumers and the public in fulfilling their social responsibilities. This external supervisory effect encourages companies to place more emphasis on the consistency between ESG disclosures and actual actions, leading to a relatively lighter manifestation of the "Lip Service" phenomenon.

[8] The industry names mentioned in this paper are presented in their abbreviated form, and the corresponding full names can be found in the industry abbreviation table in the appendix.

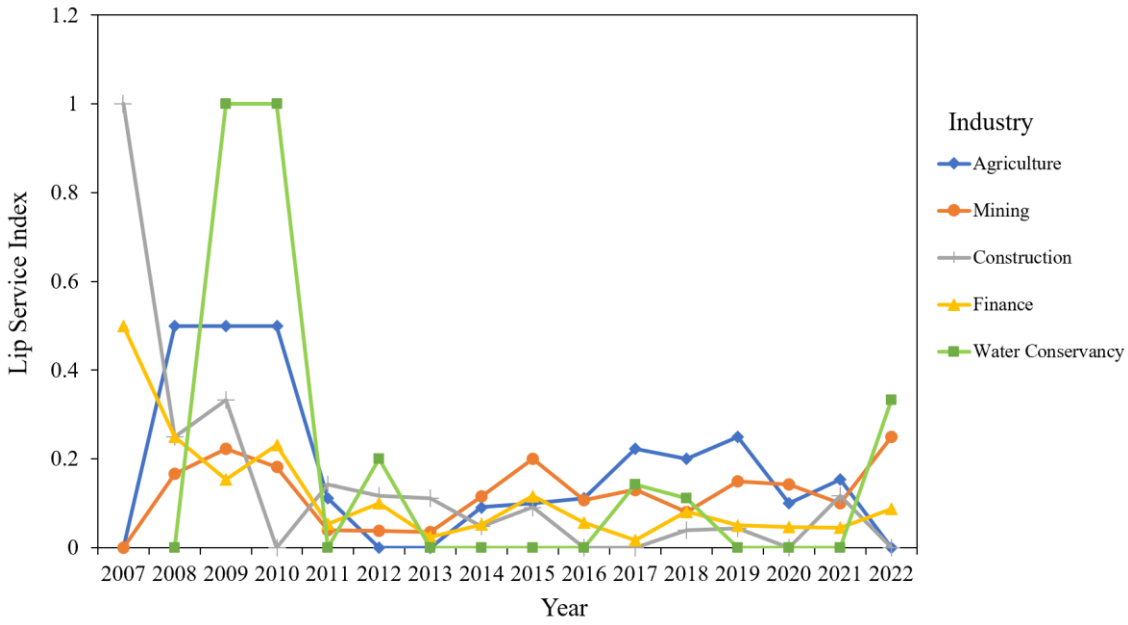

Figure 1 Distribution of the top five ranked industries based on the "Lip Service" index

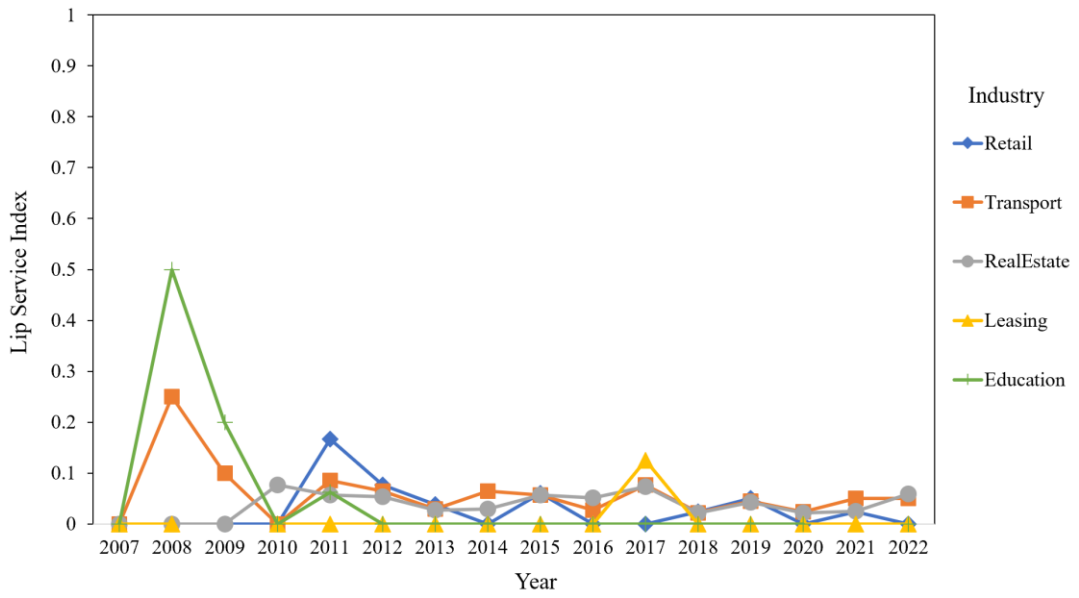

Figure 2 Distribution of the bottom five ranked industries based on the "Lip Service" index

3.4.2 Spatial Distribution of the "Lip Service" Index

Figures 3 and 4 present the regional distribution of the "Lip Service" index for 2010 and 2022. In the early sample period, due to underdeveloped ESG disclosure policies, only a limited number of firms issued social responsibility reports, making it difficult to comprehensively reflect the spatial distribution. In 2010, the Ministry of Environmental Protection issued the "Notice on Further Strengthening the Management System for Listed Companies' Environmental Protection Review" and the "Guidelines for Environmental Information Disclosure by Listed Companies (Draft for Comments)," requiring listed companies to disclose environmental information in a

timely, complete, and accurate manner. These policies enhanced ESG disclosure requirements, making 2010 a representative starting point for analyzing the regional distribution of the "Lip Service" index.

Figure 3 shows that the "Lip Service" phenomenon in 2010 was concentrated in coastal provinces, while the phenomenon was more serious in inland provinces such as Guizhou, Sichuan, and Inner Mongolia. As shown in Figure 4, the "Lip Service" phenomenon became more pronounced in 2022, particularly in southern provinces such as Yunnan, Guizhou, and Hainan. In contrast, most northern provinces experienced relatively fewer occurrences of this phenomenon. Firstly, more economically developed provinces, especially in coastal regions, tended to focus earlier on corporate environmental and social performance, leading to the establishment of more comprehensive environmental policies and frameworks. However, due to the lack of strong ESG implementation mechanisms, there was greater flexibility in corporate ESG practices, leading to the "Lip Service" phenomenon. Secondly, in economically weaker provinces like Xinjiang and Ningxia, policy support and regulatory enforcement were weaker, prompting companies to engage in more opportunistic ESG disclosures, which further intensified the "Lip Service" phenomenon. Lastly, provinces like Yunnan and Guizhou, with economies heavily reliant on traditional resource-based industries, faced significant environmental pollution and social responsibility pressures. While local governments may have introduced relevant policies, the inertia of industrial structures often led companies to only make compliant disclosures without real transformation, exacerbating the "Lip Service" phenomenon.

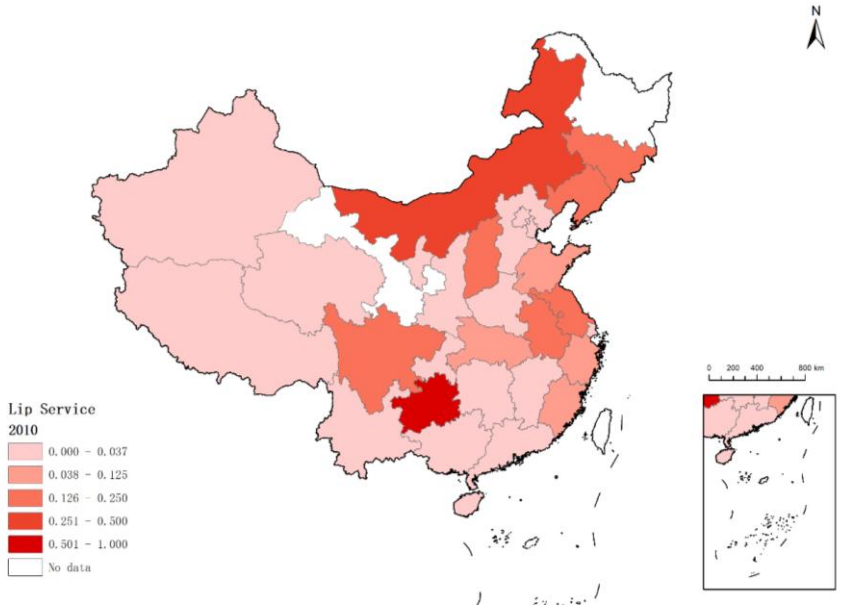

Figure 3 Regional Distribution of the "Lip Service" Index Sample in 2010[9]

[9] In this paper, the region distribution map interval number division method is natural break point classification method.

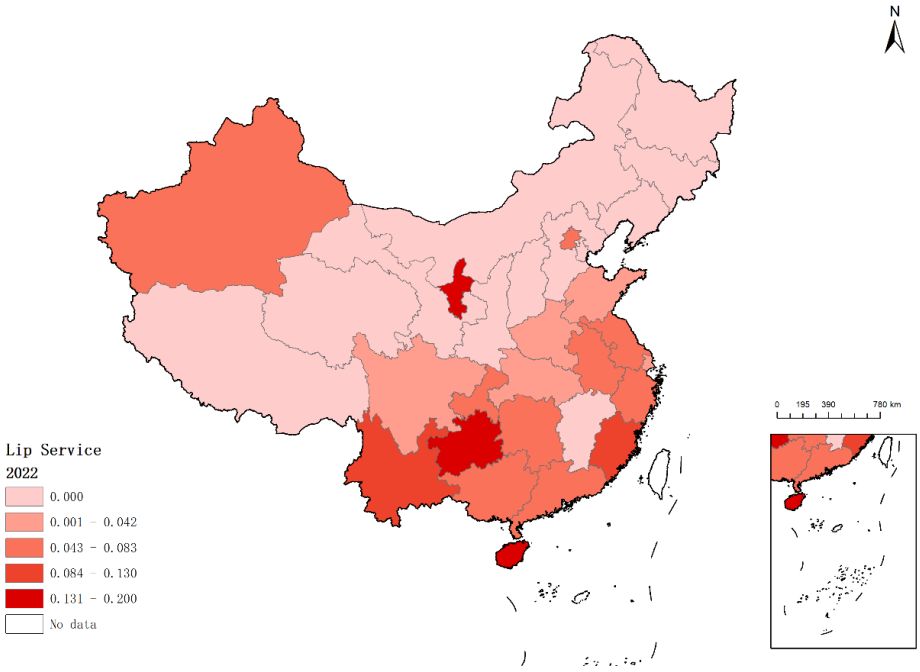

Figure 4 Regional Distribution of the "Lip Service" Index Sample in 2022

Based on the construction method of "Lip Service" index we consider the different combinations of ESG disclosures are "wordy" and whether ESG practices are "actionless", and further construct a four-quadrant matrix to discuss the different behavior patterns of ESG information disclosure. Based on this, we constructed a four-quadrant matrix to analyze different ESG information disclosure behavior patterns, as shown in Figure 5, and Figure 6 presents the regional distribution of behavior patterns corresponding to each quadrant.

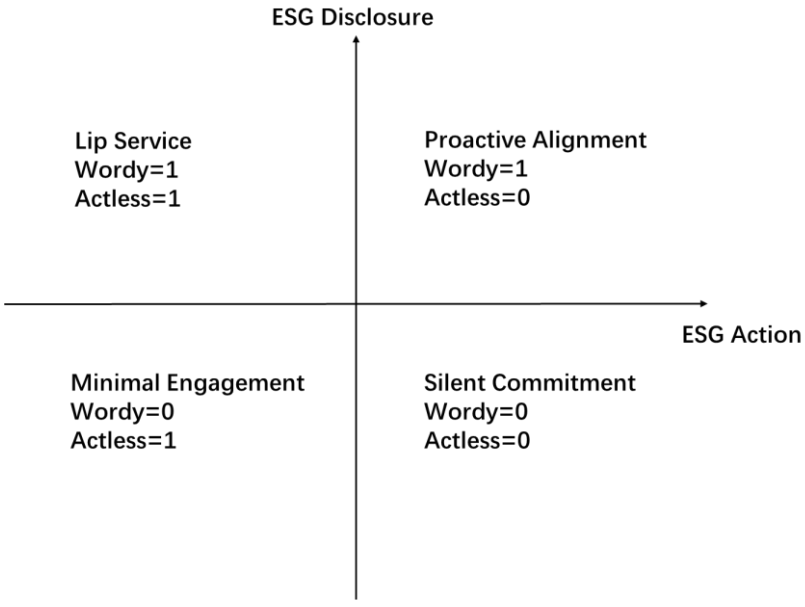

Figure 5 Four patterns of ESG Information Disclosure

As shown in Figure 6(a), the "Lip Service" phenomenon is prevalent in most provinces across the country, particularly severe in inland regions such as Gansu, Inner Mongolia, and Guizhou. In these regions, companies, driven by external pressures, tend to engage in frequent information disclosure. However, due to insufficient governance, limited resource allocation, or high implementation costs, ESG practices often fail to follow through, leading to the phenomenon of "high disclosure, low implementation." Correspondingly, the phenomenon of "silent commitment" shown in Figure 6(d) is mainly concentrated in the eastern region, especially in Heilongjiang and Chongqing. These regions, dominated by heavy industry and resource-based enterprises, may strengthen ESG actions due to internal and external pressures but are more conservative in their information disclosure. Additionally, some companies in these areas prioritize actual actions over publicity, making the "Silent Commitment" phenomenon more pronounced.

According to Figure 6(b), the "Proactive Alignment" behavior is concentrated in prosperous coastal provinces like Jiangsu and Fujian. Enterprises in these areas benefit from solid economic foundations, a sound market environment, and government policy support, providing ample resources to drive ESG practices while ensuring transparent information disclosure. Moreover, the high attention from capital markets and regulatory pressures in these regions over the years has led companies to place greater emphasis on the comprehensiveness and sustainability of ESG practices. As shown in Figure 6(c), the "Minimal Engagement" phenomenon is primarily concentrated in the western regions, with Sichuan, Tibet, and Xinjiang being particularly prominent. These regions, constrained by relatively underdeveloped economies, weak industrial foundations, and insufficient resource investment, exhibit poor performance in both ESG practices and information disclosure. Additionally, some companies lack governance awareness, and with limited market demand, their enthusiasm for ESG disclosures remains low, leading to a higher incidence of the "Minimal Engagement" phenomenon.

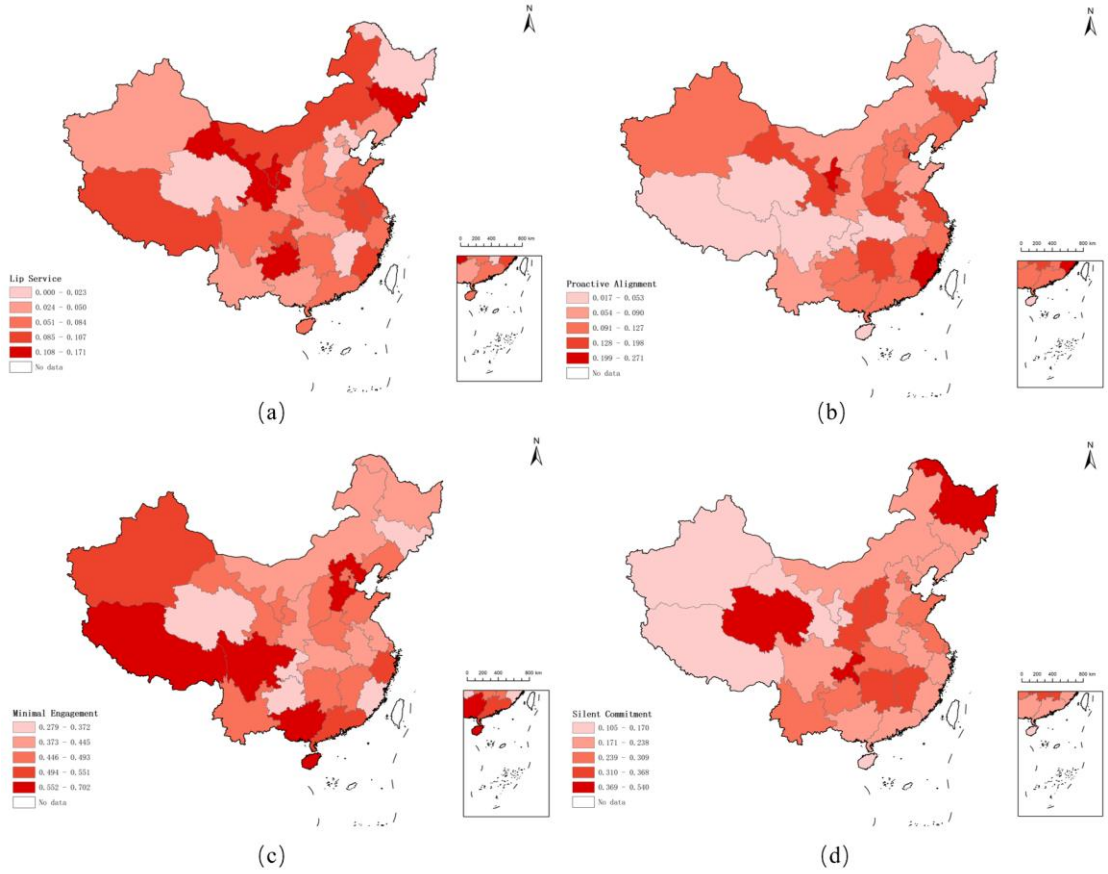

Figure 6 Regional Distribution of the ESG Information Disclosure Four-Quadrant Matrix during the Sample Period

4. Analysis of empirical results

4.1 Benchmark regression

Table 2 reports the results of the benchmark regression testing the impact of "Lip Service" behavior in ESG disclosure on firm value. In column (1), without control variables or fixed effects, the LS coefficient is significantly positive, indicating that firms' inconsistent ESG disclosures negatively affect firm value. To ensure robustness, we add control variables for operational characteristics and corporate governance in columns (2) and (3), along with year, individual, and industry fixed effects. The LS coefficient remains significantly positive at the 1% level, further supporting Hypothesis 1. This confirms that inconsistencies in ESG disclosure can erode market trust, leading to a substantial decline in corporate value.

Table 2 The impact of "Lip Service" behavior of ESG disclosures on firm value

VARIABLES	(1)	(2)	(3)
	TBQ		
LS	-0.1147*	-0.1905***	-0.2042***
	(0.0682)	(0.0688)	(0.0716)

Size		-0.8342***	-0.8145***
		(0.0527)	(0.0574)
Lev		1.4886***	1.5430***
		(0.2001)	(0.2103)
ROA		5.8158***	5.6930***
		(0.3116)	(0.3252)
Cash		0.0511***	0.0546***
		(0.0184)	(0.0192)
Capital		-0.8711***	-0.8667***
		(0.2342)	(0.2484)
ShrHolder1		-0.2721	-0.6963**
		(0.2841)	(0.3046)
PID		0.1665**	0.1804**
		(0.0788)	(0.0815)
Constant	2.2941***	19.0208***	19.0073***
	(0.0139)	(1.1798)	(1.9756)
Year FE	NO	YES	YES
Firm FE	YES	YES	YES
Industry FE	NO	NO	YES
Observations	9,689	7,693	7,160
R-squared	0.0004	0.2147	0.2296

4.2 Robustness Tests

To verify the reliability of the previous findings, we conduct several robustness tests, with results reported in Table 3.

First, we lag the explanatory variable by one period. Firm value can be influenced by short-term factors such as market sentiment and policy changes, which may bias the results. Additionally, the impact of ESG disclosures may take time to fully manifest. By lagging Tobin's QTBQ) by one period, we reduce the influence of short-term volatility and better capture the long-term effect of ESG disclosures on firm value. The results in column (1) show that the LS coefficient remains significantly negative, confirming that the inconsistency between ESG disclosures and actual actions continues to harm corporate value after accounting for the lag period. This supports our main regression findings.

Second, we account for firm-level clustering. Firm performance over multiple years may be influenced by inherent characteristics, potentially causing error terms to be

correlated, which could underestimate standard errors and reduce the accuracy of estimates. By adding firm-level clustering, we allow for correlation in the error terms across years for the same firm. The results in column (2) show that the LS coefficient remains significantly negative, further supporting the conclusion.

Third, we replace industry fixed effects with a year-industry interaction term. Industry performance, policy changes, and external conditions may vary across years, and industry fixed effects alone may not fully capture these dynamics. By using a year-industry interaction term, we better account for industry-specific fluctuations over time. The results in column (3) show that the LS coefficient remains significantly negative, further reinforcing the robustness of our findings.

Table 3 Robustness test

VARIABLES	(1)	(2)	(3)
	TBQF1	TBQ	TBQ
LS	-0.1189*	-0.2042*	-0.1785**
	(0.0671)	(0.1110)	(0.0734)
Size	-0.8206***	-0.8145***	-0.8499***
	(0.0570)	(0.1436)	(0.0608)
Lev	1.2096***	1.5430***	1.2195***
	(0.2006)	(0.5441)	(0.2147)
ROA	3.2702***	5.6930***	4.3791***
	(0.3440)	(1.4643)	(0.3243)
Cash	0.0306*	0.0546**	0.0563***
	(0.0181)	(0.0276)	(0.0192)
Capital	-0.3570	-0.8667**	-0.6089**
	(0.2362)	(0.3665)	(0.2521)
ShrHolder1	0.2918	-0.6963	-0.7911**
	(0.2930)	(0.5534)	(0.3124)
PID	0.0908	0.1804**	0.1285
	(0.0746)	(0.0707)	(0.0798)
Constant	20.1152***	19.0073***	21.6459***
	(1.9197)	(3.1601)	(2.7796)
Year FE	YES	YES	YES
Firm FE	YES	YES	YES
Industry FE	YES	YES	NO
Industry Year FE	NO	NO	YES
Observations	6,083	7,160	7,160

R-squared	0.2205	0.2296	0.4608

4.3 Mechanism analysis

As previously discussed, "Lip Service" behavior in ESG reports has a significant negative impact on firm value. Corporate ESG disclosure is influenced not only by external stakeholder oversight but also by internal governance structures. To better understand this dynamic, it is essential to examine both external and internal oversight mechanisms. Accordingly, we construct the following model to investigate whether these mechanisms can mitigate the negative effects of "Lip Service" on firm value.

$$TBQ_{i,t} = \beta_1 + \beta_2 Lip\ Service_{i,t} + \beta_3 mech_{i,t} + \beta_4 Lip\ Service_{i,t} \times mech_{i,t} + \rho X_{it} + \alpha_i + \gamma_t + \varepsilon_{it} \quad (6)$$

Where, the coefficient β_4 represents the magnitude of the role of the mechanism variable in regulating the impact of "Lip Service" behavior on enterprise value. If the coefficient β_4 is significantly positive, it means that the mechanism variable has a significant mitigating effect on the negative impact of "Lip Service" behavior. Conversely, it exacerbates the negative effect.

Drawing on the work of He et al. (2024), Zhang and Zhang (2024), and Sun et al. (2024), we select the following mechanism variables for analysis. ① *news* stands for media attention, which measures the number of news reports about the firm in a year. ②*atten* for analyst attention, which is the number of analysts (or teams) that have followed the company in a year. ③*ins* is institutional shareholding, including the percentage of fund shareholding, brokerage firm shareholding, insurance company shareholding, social security fund shareholding, QFII shareholding and other institutional shareholding.④ *ESG_shareratio* is the proportion of shares held by “pan-ESG” funds. ⑤*CEOsalary* is the total compensation of the CEO. ⑥*ManageShare* is the percentage of management's shareholding. This is the ratio of the number of shares held by directors and supervisors to the total number of shares. ⑦*Dual* is a dummy variable for two positions. That is, whether the chairman and general manager are the same person. The data sources for the above mechanism variables are the Cathay Pacific database and the China Research Data Service Platform (CNRDS).

4.3.1 External oversight mechanisms

Table 4 presents the results of the tests on external monitoring mechanisms. In terms of media monitoring, the coefficient of LS in Column (1) is significantly negative, while the interaction term’s coefficient is significantly positive, indicating that media monitoring effectively mitigates the negative impact of "Lip Service" behavior on firm

value, thus verifying Hypothesis 2a. Media coverage can harm a firm's social image by exposing its misbehavior, applying external pressure that prompts firms to be more cautious and truthful in their ESG disclosures to avoid the negative consequences of adverse publicity.

Regarding analysts' monitoring, the LS coefficient in Column (2) is also significantly negative, and the interaction term with analysts' attention (atten) is significantly positive. This suggests that analysts' oversight plays a mitigating role, supporting Hypothesis 2b. As key intermediaries in the capital market, analysts use their expertise to identify inconsistencies in ESG disclosures, which can affect investor trust. Consequently, firms tend to be more prudent in their ESG disclosures to avoid unfavorable assessments from analysts.

For institutional investors, the LS coefficient in Column (3) is significantly negative, and the interaction term with institutional investor shareholding (ins) is significantly positive, confirming Hypothesis 2c. Institutional investors, as long-term participants in corporate governance, apply external pressure that encourages firms to improve ESG disclosure quality. High-quality ESG disclosures not only help reduce financing costs and enhance market competitiveness but also promote responsible ESG practices, mitigating the negative effects of "Lip Service" behavior on firm value.

In addition, we examine ESG fund investors, with the results in Column (4) showing a significantly negative LS coefficient and a significantly positive interaction term with the variable ESG_shareratio, further verifying Hypothesis 2c. The interaction term for ESG fund shareholding shows a larger coefficient compared to other monitoring mechanisms, suggesting that ESG fund investors exert stronger monitoring pressure on firms to improve ESG transparency. Unlike traditional investors, ESG fund investors focus not only on financial performance but also on the sustainability of firms. ESG fund investment decisions rely heavily on ESG indicators, closely tying a firm's ESG performance to the fund's investment returns. To ensure continued compliance with ESG standards, these funds often demand greater transparency in ESG disclosures. Furthermore, ESG fund investors possess specialized ESG analysis capabilities, making them more adept at identifying subtle inconsistencies between disclosures and actual practices. This deep engagement and economic incentive make ESG funds more effective in improving ESG disclosure quality than other external monitoring mechanisms.

Overall, the results support Hypothesis 2, demonstrating that the negative impact of ESG disclosure on firm value can be mitigated through external monitoring by media, analysts, institutional investors, and ESG funds.

Table 4 External oversight mechanism

VARIABLES	(1)	(2)	(3)	(4)
	TBQ			
LS	-0.8002**	-0.4132**	-0.5595***	-0.2884***
	(0.3607)	(0.1701)	(0.1582)	(0.0783)
news	0.4107***			
	(0.0311)			
news_LipService	0.1138*			
	(0.0682)			
atten		0.2883***		
		(0.0276)		
atten_LipService		0.1258*		
		(0.0683)		
ins			0.0052***	
			(0.0012)	
ins_LipService			0.0077***	
			(0.0030)	
ESG_shareratio				3.5229***
				(0.2257)
ESG_LipService				1.6459**
				(0.6831)
Constant	21.1924***	18.2959***	18.7192***	17.4579***
	(2.0222)	(1.6190)	(1.9722)	(1.9748)
Controls	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
Observations	6,779	6,017	7,159	7,113
R-squared	0.2610	0.2443	0.2339	0.2607

4.3.2 Internal monitoring mechanisms

Table 5 presents the results of the tests on internal monitoring mechanisms. For CEO compensation, the results in column (1) show that the interaction term between CEO salary and LS is significantly positive, indicating that CEO compensation incentives positively moderate the negative impact of "Lip Service" behavior on firm value. This supports Hypothesis 3a. CEO compensation, when aligned with the firm's long-term

goals, encourages CEOs to focus on sustainable development and corporate social responsibility. By linking CEO interests to ESG performance, this incentive mechanism promotes more truthful and transparent disclosures, reducing information asymmetry and mitigating the negative effects of "Lip Service" on firm value.

In contrast, the interaction term between the ManageShare variable and LS is not significant, meaning Hypothesis 3b is not supported. This may be due to the typically low levels of management shareholding, which provide insufficient incentives to influence long-term ESG performance. Management shareholding may be more focused on short-term stock price movements rather than long-term sustainability, limiting its effectiveness in monitoring ESG disclosures.

Regarding the Dual mechanism, the results in column (3) show that the interaction term between Dual and LS is also insignificant, meaning Hypothesis 3c is not validated. While combining the roles of CEO and board chair can improve governance efficiency and reduce communication costs, this concentration of power may undermine independent oversight. As a result, CEO duality does not effectively mitigate inconsistencies in ESG disclosures.

Table 5 Internal monitoring mechanism

VARIABLES	(1)	(2)	(3)
		TBQ	
LS	-4.0320***	-0.1926**	-0.2088**
	(1.2670)	(0.0813)	(0.0868)
CEOsalary	-0.0549		
	(0.0387)		
CEO_LipService	0.2808***		
	(0.0930)		
ManageShare		0.0107***	
		(0.0034)	
ManageShare_LipService		-0.0056	
		(0.0046)	
Dual			-0.0219
			(0.0699)
Dual_LipService			0.0167
			(0.1773)
Constant	16.2026***	19.4944***	15.8204***
	(2.1519)	(2.0437)	(2.1416)
Controls	YES	YES	YES

Year FE	YES	YES	YES
Firm FE	YES	YES	YES
Industry FE	YES	YES	YES
Observations	4,688	6,770	5,905
R-squared	0.2411	0.2352	0.2460

4.4 Heterogeneity analysis

4.4.1 Nature of Industry Pollution

Business operations in highly polluting industries are often accompanied by greater environmental impacts and risks, and thus society and regulators have higher requirements for their ESG performance. Such companies have high environmental governance costs and greater social responsibility obligations. As a result, the market is more sensitive to high-polluting firms in terms of their environmental performance, and any inconsistency in ESG disclosure can exacerbate the public's negative reaction to the firms. When these firms show "Lip Service" behavior in ESG disclosure, the market will punish them more severely, resulting in a greater loss of firm value.

According to the degree of pollution of the enterprises, the samples were divided into two groups: high-polluting enterprises and low-polluting enterprises. As shown in columns (1) and (2) of Table 6, variable LS of both types of enterprises has a significant negative impact on enterprise value, but the coefficient of high-polluting enterprises (0.2567) is higher than that of low-polluting enterprises (0.1564). This indicates that polluting firms are more severely penalized by the market for their "Lip Service" behavior, while the value of low-polluting firms is also negatively affected, but to a lesser extent. This suggests that although low-polluting firms have lower environmental liabilities, the market is relatively more tolerant of their inconsistent ESG disclosures. However, low-polluting firms are also negatively impacted by "Lip Service" behavior. Therefore, they still need to improve the transparency and accuracy of their ESG performance in order to prevent the continuous decline of enterprise value in the long run.

4.4.2 Nature of Ownership

State-owned enterprises (SOEs) usually shoulder more social responsibility, and their operations not only pursue profits, but also need to take into account the overall interests of social and economic development. With the gradual improvement of ESG disclosure regulations in recent years, SOEs are required to make higher standards of mandatory ESG disclosure. The government's supervision of SOEs has become stricter. As SOEs are subject to more external pressure and compliance requirements, their "Lip Service"

behavior may be effectively suppressed under the combined effect of internal governance and external regulatory mechanisms.

In contrast, ESG disclosure by non-state-owned enterprises (non-SOEs) is more market-driven and investor-driven. In the absence of mandatory disclosure requirements, non-SOEs may exaggerate or selectively disclose their actual behaviors in ESG reports in order to build a good corporate image. Such inconsistent behavior is easily detected by the market, thus affecting investors' trust in the enterprise and leading to a greater negative impact on its enterprise value.

According to the nature of property rights, the sample is divided into SOEs and non-SOEs. Columns (3) and (4) of Table 6 report the relevant results. The results show that the variable LS of SOEs does not show a significant effect in the regression, while in the group of non-SOEs, the effect of the variable LS on firm value is significantly negative, which indicates that the inconsistency of ESG disclosure leads to more severe market penalties. market penalty.

4.4.3 Firms' business risks

While the two aspects discussed in the previous section focus on the objective attribute heterogeneity of firms, the internal characteristics of firms, such as the level of business risk and the disclosure strategy reflected in the tone of the annual report, have an equally important impact on ESG disclosure strategy. High-risk firms typically face greater profit volatility and financial uncertainty, and the market is therefore more sensitive to their ESG disclosures. In addition, the management of high-risk firms may adopt opportunistic behavior to cope with unstable operating environments by using ESG disclosure as a gaming tool, attracting investors by exaggerating ESG information, and thus adopting the disclosure strategy of "Lip Service" to alleviate financial pressures. Therefore, when high-risk firms display "Lip Service" behavior, the market is more pessimistic about their future operations, which leads to a greater impact on their enterprise value.

In contrast, low-risk firms may be more tolerant of inconsistent ESG disclosures due to their relatively stable operations. And because these firms have less profit volatility and investors have more trust in their financial health, even if there are inconsistencies in ESG disclosure, the negative impact on them may not be immediately reflected in the fluctuation of enterprise value. Based on the median standard deviation of profit margin before EBITDA, the sample is divided into two groups: high operational risk enterprises and low operational risk enterprises. As shown in Columns (5) and (6) of Table 6, the negative impact of "Lip Service" in ESG disclosure on firm value is more significant for firms with high business risk, while the effect is not significant for firms with low

business risk.

4.4.4 Annual report tone

Relevant studies have shown that underperforming firms often use a positive tone in their communications to manage impressions, attempting to mitigate negative market perceptions by adjusting their language (Huang et al., 2014). These firms are more likely to employ polished language in their ESG disclosures to mask their actual ESG performance or to downplay shortcomings in sustainability by adopting a more optimistic tone. As a result, a positive tone in annual reports may indicate a greater likelihood that these companies are engaging in "Lip Service" behavior. However, when such firms fail to meet their promised ESG responsibilities, the market tends to penalize them more severely.

Conversely, companies that use a neutral or negative tone in their annual reports are generally more straightforward in their disclosures and employ less rhetoric, signaling greater honesty and transparency to the market. Investors tend to have more reasonable expectations and higher trust in these companies. Therefore, inconsistent ESG disclosure by firms with a relatively neutral or negative tone tends to have a less detrimental effect on their value.

To analyze this, we first calculate the number of positive words in the annual reports using the LM dictionary and then compute an annual tone index. Based on the median, we divide the sample into two groups: those with an active tone and those with a non-active tone. The results in columns (7) and (8) of Table 6 indicate that firms adopting a positive tone are more prone to "Lip Service" leading to greater market losses. In contrast, firms with a non-positive tone do not experience significant negative effects on their firm value, as they engage in less impression management.

Table 6 Heterogeneity analysis

	Nature of Industry Pollution		Nature of property rights		Business risk		Annual report tone	
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Non-Pollution	Pollution	non-SOEs	SOEs	Low	High	Non-Active	Actively
LS	-0.1564*	-0.2567**	-0.2779**	-0.1016	-0.0819	-0.3019***	0.0115	-0.1949*
	(0.0916)	(0.1138)	(0.1396)	(0.0790)	(0.0848)	(0.1129)	(0.1073)	(0.1003)
Constant	15.7314***	21.4505***	15.6850***	17.1185***	7.4246***	21.6954***	10.9990***	20.7081***
	(2.3772)	(2.2530)	(3.0243)	(1.8883)	(1.7525)	(2.7523)	(2.0640)	(2.0600)
Controls	YES	YES	YES	YES	YES	YES	YES	YES

Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES
Observations	4,812	2,348	2,774	3,754	3,155	4,005	3,587	3,573
R-squared	0.2471	0.2160	0.3046	0.2164	0.3332	0.2653	0.1831	0.3192

4.5 Further analysis

4.5.1 Existence test of "Lip Service" behavior

In order to further strengthen the robustness of the research conclusions of this paper, we construct the following model to test the existence of "Lip Service" behavior in ESG disclosure.

$$ESG\_act_{i,t} = \beta_1 + \beta_2 ESG\_disclosure_{i,t} + \rho X_{i,t} + \alpha_i + \gamma_t + \tau_j + \varepsilon_{i,t} \quad (7)$$

The explanatory variable ESG_act is the ESG rating used in the construction of the "Lip Service" indicator, which is a measure of a firm's "actual action" in terms of ESG. The explanatory variable ESG_disclosure is a collective term for the dimensions ESG_wordratio, which represents the ESG disclosure index defined in the previous section. Table 7 presents the results, columns (1) and (2) show the regression results with ESG_wordratio as the explanatory variable, and columns (3) and (4) replace the explanatory variable with the LS variable to further validate the robustness of the findings.

The regression results in columns (1) and (2) show insignificant coefficients, indicating that an increase in the ESG disclosure index does not lead to a significant improvement in firms' actual ESG actions. This suggests that firms do engage in "Lip Service" behavior in the ESG disclosure process. Furthermore, the results in columns (3) and (4) show a significantly negative coefficient for the LS variable, implying that the higher the degree of "Lip Service" behavior, the lower the level of actual ESG implementation. These findings further confirm the existence of "Lip Service" behavior among firms in their ESG disclosures.

Table 7 Existence test of corporate ESG disclosure "Lip Service" behavior

VARIABLES	(1)	(2)	(3)	(4)
	ESG_act			
ESG_wordratio	1.6278	-1.5680		
	(4.1017)	(4.2017)		

LS			-6.6555***	-6.5340***
			(0.3974)	(0.4047)
Constant	43.1806***	31.9596***	42.3337***	33.8326***
	(7.2240)	(11.6690)	(6.9587)	(11.3679)
Year FE	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Industry FE	NO	YES	NO	YES
Controls	YES	YES	YES	YES
Observations	7,534	7,013	7,748	7,215
R-squared	0.2164	0.2297	0.2466	0.2588

4.5.2 The test of "Lip Service" behavior on business performance

To examine the impact of "Lip Service" behavior on business performance, we use earnings per share (*EPS*), reputation (*Fame_score*), net profit (*Net_profit*), and operating income growth rate (*Opera_growth*) as explanatory variables. From the perspectives of market response, market trust, profitability, and cost control, we further examine the impact of a company's "Lip Service" behavior in ESG disclosure on business performance. The results in Table 8 show that "Lip Service" behavior has a significant negative impact on both EPS and reputation.

As a critical short-term financial metric, EPS not only measures a company's profitability and investment risk but also shapes the market's perception of its performance and future growth potential. During ESG disclosure, if a company exhibits "Lip Service" behavior, investors may quickly revise their profitability expectations and lose confidence in future earnings. These negative expectations are promptly reflected in stock price volatility, adversely impacting EPS performance. Furthermore, corporate reputation, as a critical intangible asset tied to market trust and corporate responsibility, plays a pivotal role in ensuring long-term stability and sustainable growth. When stakeholders perceive discrepancies between a company's statements and actions, this undermines trust, damages relationships with consumers and partners, and harms the firm's reputation. Such reputational damage may trigger negative market feedback, further weakening the firm's capital market position. By contrast, net profit and revenue growth, which reflect internal operational efficiency and cost management, are less sensitive to short-term market reactions. Although negative perceptions may affect investor confidence, companies can counterbalance this effect through strategic adjustments, such as cost reductions or revenue enhancements, explaining the insignificant impact on net income fluctuations observed in column (3) of Table 8.

Table 8 The impact of "Lip Service" behavior on business performance

VARIABLES	(1)	(2)	(3)	(4)
	EPS	Fame_score	Net_profit	Opera_growth
LS	-0.0491*	-0.0422***	0.0234	-0.0471
	(0.0252)	(0.0157)	(0.0331)	(0.0436)
Constant	-5.2097***	-11.6486***	-3.9406***	-1.6454
	(0.6942)	(0.4320)	(0.9096)	(1.1996)
Year FE	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
Controls	YES	YES	YES	YES
Observations	7,231	6,095	7,232	7,230
R-squared	0.5382	0.5415	0.0936	0.6402

5. Conclusions and policy implications

This study examines "Lip Service" behavior in ESG disclosures and its impact on corporate value, revealing the risks and economic consequences of discrepancies between reported and actual ESG performance.

The "Lip Service" phenomenon is more prevalent in resource-intensive, high-emission, or capital-market-dependent industries, while service-oriented industries see fewer occurrences. Temporally, it was concentrated in coastal regions in 2010 but became more widespread in southern provinces by 2022, with less prominence in northern regions. Regionally, "Lip Service" was more common in inland areas, "Silent Commitment" appeared in heavy industry regions, "Proactive Alignment" was notable in economically developed regions, and "Minimal Engagement" prevailed in economically and resource-constrained areas. Empirical research finds that low-quality ESG disclosures reduce investor confidence, weaken market competitiveness, and diminish firm value. External monitoring mechanisms, including media, analysts, and institutional investors, play a crucial role in curbing misconduct, with ESG fund investors demonstrating the strongest governance effect. Traditional internal mechanisms, such as management shareholding and CEO duality, have failed to effectively curb "Lip Service" behavior, indicating clear limitations when these tools are used in isolation. In contrast, only CEO compensation incentives can effectively reduce the negative impact of "Lip Service" behavior on firm value by aligning management’s focus with long-term goals and ESG performance. Heterogeneity analysis shows that polluting firms face greater market penalties for "Lip Service" behavior, while state-owned enterprises are more conscientious in ESG disclosures due

to stricter regulatory requirements. Firms with high business risk or a positive tone in annual reports are more likely to exaggerate ESG performance, resulting in harsher market penalties when they fail to meet their commitments. Further analysis confirms the existence of "Lip Service" behavior and its negative impact on earnings per share and reputation. This behavior not only lowers investor expectations of profitability but also weakens customer loyalty and market acceptance. Based on the above findings, the implications of this paper are as follows. First, based on the regional and industry distribution differences, governments and regulators should formulate differentiated policy and regulatory measures tailored to the characteristics of different regions and industries, particularly intensifying the supervision of ESG practices in resource-intensive and high-emission industries. Moreover, governments should promote cross-regional and cross-industry information sharing and experience exchange, encouraging local governments and companies to share their successful experiences and challenges in ESG practices, in order to foster healthy competition and mutual progress among regions.

Second, governments and regulators should promote the establishment of unified ESG disclosure standards, clarifying both the content and format requirements for corporate disclosures. Reducing ambiguity and inconsistency in ESG reporting will allow investors to better assess the alignment between a company’s actual performance and its commitments. Firms should also be guided to provide objective and transparent ESG disclosures, reducing the avoidance of negative information, which will help strengthen investor confidence in the firm’s long-term value.

Third, external stakeholders such as the media, analysts, and institutional investors should be encouraged to actively monitor and evaluate corporate ESG behavior. The government can provide policy incentives to motivate these organizations to play a more proactive role in monitoring ESG disclosures, thereby enhancing corporate awareness of and actions toward social responsibility.

Finally, companies should improve their internal governance structures to address the limitations of traditional internal monitoring mechanisms. Establishing independent ESG committees focused on strategic environmental, social, and governance issues will ensure better oversight. Additionally, firms should integrate ESG performance into management and employee evaluations and set up internal audit teams to regularly verify the accuracy and consistency of ESG information, ensuring the authenticity of disclosures and improving accountability for ESG responsibilities.

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Appendice

Table A1 Keyword Library for ESG Information Disclosure in Corporate Texts

Dimension	Keywords
Environmental information	Environmental policy, compliance with environmental policy, environmental protection, compliance with the general requirements of national and regional environmental protection, environmental pollution, environmental pollution emission, emission standards, compliance with environmental pollution emission standards, pollution reduction, increase production and reduce pollution, no increase in pollution, increase in production and no increase in pollution, low consumption, low energy consumption, low pollution, high recycling, comprehensive utilization of resources, comprehensive utilization of resources policy, comprehensive utilization of resources planning, coordinated development, the environment and the economy, principle of coordinated development of environment and economy, sustainable development, environmental coordination, production and environment, coordinated development of production and environment, environmental benefits, unity of economic and environmental benefits, environmental publicity, environmental mission, environmental education, environmental awareness, environmental awareness of the whole staff, environmental planning, environmental protection technology, resource utilization technology, resource utilization, research on environmental protection technology, research on resource utilization technology, Waste Comprehensive Utilization Technology Research, Environmental Monitoring, Pollution Sources, Pollution Source Identification, Environmental Protection Initiatives, Environmental Protection Behavior, Environmental Preliminary Examination, Environmental Assessment, Environmental Evaluation

Social Responsibility Information	Employee Training, Employee Training and Education, Training Employees, Employee Performance, Unemployed Employees, Unemployment, Employee Health and Safety, Employee Health, Employee Safety, Employee Motivation and Development, Employee Development, Employee Relations, Employee Compensation, Employee Motivation, Employee Benefits, Women in Management, Women in Management, Women on Boards of Directors, Recalls, Complaints, Quality Certificates, Quality Certification, Quality Certification, Quality Management System Certification of Services, Quality Management System Certification , Supply Chain Responsibility, Supply Chain Oversight, Customer Management Relationships, Confidentiality of Customer Information, After-Sales Service, Inclusion, Community Investment, Promoting Community Employment, Donation, Employment, Science and Technology Innovation, Charitable Giving, Education, Community Benefit, Public Benefit, Community Interest, Employee Growth Rate, Rural Revitalization, Data Security and Privacy, Data Security, Data Security Management, Patent Applications, R&D Personnel Ratio, R&D Staff Percentage, R&D expenditure as a percentage of revenue, safety management system, safety management, safety training, safety production, safety production training, negative business events, disputes, employee disputes, employee jumping, mining accidents, occupational diseases, impairment of intangible assets
Corporate Governance Information	Internal evaluation, audit report, audit independence, board shareholding, audit committee, committee convenes, independent directors, investor relations, ESG governance, risk control, board structure, management stability, ESG external assurance, credibility, disclosure credibility, disclosure, ESG disclosure, accounting firm, accounting firm replacement, shareholder rights protection, external sanctions, business ethics, anti-bribery, anti-corruption, anti-corruption and bribery, whistleblowing, whistleblowing system, tax transparency, lawsuits, proportion of pledges by major shareholders, tax disputes, debt disputes, behavior of major shareholders, solvency, lawsuits, tax transparency, board cross-servicing, shareholding by vendors, shareholding by stakeholders, cross-shareholding, cross-shareholding with vendors and other stakeholders, controlling shareholders , existence of controlling shareholders, related parties, interrelationships, outstanding balances, transactions and outstanding balances, compliance management, risk management

Table A2 Correspondence between Industry Abbreviations and Full Names

Abbreviation		Full name of industry
A	Agriculture	Agriculture, Forestry, Animal Husbandry, and Fishery
B	Mining	Mining Industry
E	Construction	Construction Industry
F	Retail	Wholesale and Retail Trade
G	Transport	Transportation, Storage, and Postal Services
J	Finance	Financial Services
K	Real Estate	Real Estate Industry
L	Leasing	Leasing and Business Services
N	Water Conservancy	Water Conservancy, Environment, and Public Facilities Management
S	General Services	General Services