

Analysis of the Impact of Corporate Social Responsibility Report Tone on Corporate Profitability

Yujiang Shi

*School of Management, Shandong University, Jinan, China
202300272108@mail.sdu.edu.cn*

Abstract. This paper uses Chinese A-share listed companies from 2008 to 2024 as its research sample. Based on impression management theory, agency theory, and situational theory, it employs a multiple regression model to empirically examine the impact of Corporate Social Responsibility (CSR) reporting tone on corporate profitability, as well as the moderating effects of external supervision and the post-pandemic context. The study constructs a CSR reporting tone index using the Loughran and McDonald financial sentiment dictionary (LM dictionary), measures corporate profitability with ROE, and after controlling for variables such as debt-to-equity ratio and growth, finds that: a positive CSR reporting tone is significantly negatively correlated with corporate profitability; this negative impact is more significant when external supervision is weak; and the negative effect of CSR tone on profitability is further enhanced after the COVID-19 pandemic. The results provide new empirical evidence for understanding the signaling value and "greenwashing" effect of CSR reporting tone, and also offer a reference for companies to optimize their information disclosure strategies and for stakeholders to rationally interpret CSR reports.

Keywords: CSR reporting tone, corporate profitability, external supervision, impression management theory

1. Introduction

With the advancement of the global Sustainable Development Goals (SDGs) and the proposal of China's "dual carbon" goals, corporate social responsibility (CSR) reports have evolved into key documents concerning the survival and development of enterprises. CSR reports are both compliance certificates and core channels for communication with stakeholders. However, the "tone" of the text in the report has a dual nature: it may be a signal of fulfilling responsibilities, or it may be a "greenwashing" tactic used by management to manage impressions. In the current complex economic environment, the impact of such emotional signals on corporate operating results remains uncertain.

Academic discussions on the economic consequences of CSR disclosure mainly focus on "signaling theory" and "impression management theory." The mainstream view tends to support the positive value of CSR disclosure. Huang pointed out that although there are differences in performance in different markets, overall evidence suggests a positive correlation between ESG activities and corporate financial performance [1]. Broadstock et al. found that companies with high

ESG performance showed greater resilience under the impact of COVID-19. However, the voices of doubt have never stopped [2]. Yu et al. revealed the global phenomenon of "greenwashing," pointing out that the tone of the report is often strategically modified to cover up the shortcomings of actual performance. Existing studies have focused primarily on hard indicators, with insufficient exploration of the role of "tone" as an emotional signal in the context of "dual carbon" and the period since the onset of the COVID-19 pandemic [3].

Therefore, this paper selects Chinese A-share listed companies from 2008 to 2024 as samples, extracts CSR reporting tone indicators using text mining techniques, and constructs a model to test the relationship between tone and profitability. The study aims to clarify whether CSR reporting tone is a "barometer" of profitability or a means of concealing problems, and to examine the moderating effects of external supervision, the pandemic, and dual carbon target scenarios. This research contributes to enriching research on the economic consequences of CSR disclosure and provides a reference for regulators to identify "deceptive" disclosures and for investors to make rational assessments.

2. Theoretical analysis

Impression management theory provides a core perspective for understanding the discrepancy between the tone of CSR reports and the actual performance of enterprises. In the capital market with information asymmetry, management has the motivation to embellish the content of disclosures in order to maintain their positions or short-term interests. This behavior is specifically manifested in CSR reports by strategically using a positive tone to build a "responsible" corporate image, which is the so-called "greenwashing" behavior. Liu & Zhao found that when performance is under pressure, tone embellishment is often used to cover up financial shortcomings or operational risks, resulting in a disconnect between the sentiment of the text and actual operations [4]. Cheng et al. pointed out that a positive tone in reports may be a means to cover up violations or even induce a drop in stock prices [5]. Based on this, the following hypothesis is proposed: H1: A positive tone in CSR reports is significantly negatively correlated with corporate profitability.

In order to suppress the above opportunistic behavior, agency theory emphasizes the key role of external supervision mechanisms in corporate governance. Due to the separation of ownership and control, management, as an agent, may violate the interests of shareholders and use the ambiguity of information in CSR reports to seek rent for themselves. In this game, external supervision forces such as institutional investors play a crucial "gatekeeper" role. Studies by Chen et al. and Reitmaier et al. have found that institutional investors can significantly improve corporate social responsibility performance and disclosure quality through active oversight. This governance effect effectively curbs the tendency of management to use CSR reports for "whitewashing," thereby moderating the mapping relationship between text tone and actual corporate value [6,7]. Based on this, this paper proposed the following hypothesis: H2: In companies with weaker external oversight, the negative impact of tone is stronger.

Furthermore, situational theory further illustrates that the relationship between corporate information disclosure behavior and its economic consequences is not static, but is deeply constrained by the dynamics of the macro environment. The global economic uncertainty and market volatility brought about by the pandemic have greatly reshaped the survival logic of enterprises. In this special context, enterprises face a more severe legitimacy crisis and resource constraints than ever before, which makes the tone of CSR reports not only a carrier of information, but also a strategic tool for enterprises to cope with crises and appease stakeholders. In their study on corporate CSR performance during COVID-19, Bae et al. found that although social

responsibility has a certain "insurance effect" in crises, in extreme market environments, market participants' ability to discern and their sensitivity to disclosed information have undergone structural changes [8]. Macroeconomic pressures may force fundamentally weak companies to adopt more aggressive tone-based strategies to hedge against negative expectations. This behavioral alienation in a specific context makes it particularly necessary to explore the unique impact mechanism of corporate CSR tone on profitability since the outbreak of the pandemic. Based on this, this paper proposed the following hypothesis: H3: In the context of the pandemic and dual carbon targets, the inverse effect of CSR tone on profitability is more significant.

3. Research methodology

Table 1. Variable description

Variable Categories	Variable Name	Measure
Dependent Variable	ROE	Net profit divided by shareholders' equity
Independent Variable	LM_Tone1	(Number of positive words - Number of negative words) / Number of words in the social responsibility report (%)
	Ntusc_Tone1	(Number of positive words - Number of negative words) / Number of words in the social responsibility report (%)
Moderator Variable	InsInvestorProp	Institutional shareholding ratio
	Year	Year dummy variable
	Leverage	Total Liabilities Divided by Total Assets
	Growth	Revenue Growth Rate
	TopTenHoldersRate	Shareholding Ratio of Top Ten Shareholders
Control Variable	Industry	Industry Dummy Variable, set according to CSRC industry classification standards
	Age	Years of Company Listing Plus 1, taken as the natural logarithm
	Size	Total Assets at the End of the Period, taken as the natural logarithm
	Province	Province Dummy Variable, set according to the company's registered location

To systematically explore the specific impact of the tone of Corporate Social Responsibility (CSR) reports on corporate profitability, this study constructed a multiple regression model for empirical testing. This study selected Chinese A-share listed companies from 2008 to 2024 as samples, covering key periods such as the "dual carbon" era and the period since the onset of the COVID19 pandemic. After removing missing data and outlier (ST, *ST) samples, 12,950 valid observations were obtained. The variable settings are shown in Table 1. CSR report text data were obtained from the CNRDS database, and financial and control variables were obtained from the CSMAR database.

$$ROE = \alpha + \beta_1 \times LM_Tone1 + \beta_2 \times TopTenHoldersRate + \beta_3 \times Growth + \beta_4 \times InsInvestorProp + \beta_5 \times TopTenHoldersRate + \beta_6 \times Industry + \beta_7 \times Province + \beta_8 \times Age + \beta_9 \times Size + \epsilon \quad (1)$$

Regarding the definition and measurement of key variables, this study selects Return on Equity (ROE) as the explained variable to measure corporate profitability. The core explanatory variable is LM_Tone1, which measures the tone of CSR reports and is constructed based on the Loughran and McDonald (LM) financial sentiment lexicon. Furthermore, to examine the moderating effect of the

external governance environment, the study introduces institutional shareholding ratio as a proxy variable for the intensity of external supervision. Control variables include debt-to-equity ratio, revenue growth rate, equity concentration, years since listing, and asset size, while controlling for industry and province fixed effects.

4. Results and analysis

4.1. Descriptive statistics and correlation analysis

As shown in Table 2, based on 12,950 observations, the mean ROE of the sample companies was 3.4%, with a standard deviation of 12.47%, indicating significant differences in profitability. The mean CSR report tone (LM_Tone1) was 5.33%, generally leaning towards a positive style. The mean institutional shareholding ratio was 52.50%. Correlation analysis showed a significant negative correlation between the positive tone of the CSR report and ROE, and also a negative correlation with the institutional shareholding ratio, supporting the initial hypothesis. The absolute values of the correlation coefficients of all major variables were below 0.7, indicating no serious multicollinearity.

Table 2. Descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
ROE	12,950	0.0640	0.1247	-0.6296	0.3398
LM_Tone1	12,950	0.0533	0.0168	0.0094	0.0991
NtUSD_Tone1	12,950	0.0968	0.0249	-0.0017	0.2589
TopTenHoldersRate	12,950	0.5914	0.1607	0.2220	0.9246
Growth	12,950	0.2879	0.7599	-0.6602	5.0714
InsInvestorProp	12,950	0.5250	0.2352	0.0121	0.9380
Leverage	12,950	0.4662	0.1969	0.0681	0.8860
Age	12,950	2.9200	0.5425	0.6931	3.5835
Size	12,950	23.1232	1.4171	20.4139	27.0212

4.2. Regression results analysis

The full sample multiple regression results (Table 3) show that the regression coefficient of the core explanatory variable LM_Tone1 is -0.2573, which is significantly negative at the 1% level. This strongly supports hypothesis H1 and verifies the impression management theory: management uses an unusually positive tone to obscure the fundamentals and cover up negative output. As Hamza and Jarboui have stated, tone management is a subtle form of impression management [9]. When data shows that "the more positive the tone, the worse the performance," it actually captures the strategic behavior of companies trying to cover up their business decline with fancy words. The data shows that "the more positive the tone, the worse the performance," capturing the strategic "greenwashing" behavior of companies using fancy words to cover up their business decline. The market was obviously not fooled by this superficial positive sentiment, but instead identified it as a risk signal, thus leading to the divergence between tone and profitability.

Table 3. Regression results analysis

Variable	Coefficient	std.err.	t	P>t
LM_Tone1	-0.2573	0.0803	-3.2000	0.0010

Table 3. (continued)

TopTenHoldersRate	0.0709	0.0140	5.0600	0.0000
Growth	0.0084	0.0020	4.2100	0.0000
InsInvestorProp	0.0379	0.0094	4.0400	0.0000
Leverage	-0.2359	0.0139	-16.9300	0.0000
Age	0.0024	0.0034	0.6900	0.4890
Size	0.0218	0.0018	12.4200	0.0000

4.3. Heterogeneity analysis

Grouped regression showed that in the low institutional shareholding group, tone had a significant negative impact on ROE (coefficient -0.4261, $P=0.001$), as shown in Table 4. In the high shareholding group, the coefficient was -0.1172 and no longer significant ($P=0.221$), as shown in Table 5. This verified hypothesis H2 and supported the agency theory. High-quality external supervision increases the cost of opportunistic disclosure. This is consistent with the findings of Chen et al. and Zhang that institutional investors improve the quality of disclosure through active supervision and behind-the-scenes pressure [6,10]. This means that when companies face a high institutional shareholding ratio, the agency cost of their "inconsistency between words and deeds" increases significantly, and professional institutional investors are able to identify and punish those who attempt to use tone to embellish their behavior. Conversely, in the absence of such professional "gatekeeper" supervision, management has greater freedom to implement tone manipulation.

Table 4. Heterogeneity analysis (a)

Variable	Coefficient	Robust std. err.	t	P>t
LM_Tone1	-0.4261	0.1258	-3.3900	0.0010
TopTenHoldersRate	0.1426	0.0189	7.5400	0.0000
Growth	0.0102	0.0033	3.0400	0.0030
InsInvestorProp	-0.0851	0.0164	-5.2900	0.0000
Leverage	-0.2773	0.0189	-14.6500	0.0000
Age	0.0072	0.0054	1.3300	0.1830
Size	0.0318	0.0028	11.1700	0.0000

Table 5. Heterogeneity analysis (b)

Variable	Coefficient	Robust std. err.	t	P>t
LM_Tone1	-0.1172	0.0958	-1.2200	0.2210
TopTenHoldersRate	-0.2040	0.0362	-5.6400	0.0000
Growth	0.0896	0.0134	6.6600	0.0000
InsInvestorProp	0.2957	0.0402	7.3500	0.0000
Leverage	-0.1805	0.0177	-10.2000	0.0000
Age	0.0033	0.0039	0.8400	0.4180
Size	0.0314	0.0028	11.0200	0.0000

Examining changes in the macro environment, the tone coefficient in the pre-pandemic sample was 0.2425 and not significant ($P=0.068$), as shown in Table 6. However, in the post-pandemic sample, the tone coefficient was -0.3028, significantly negative ($P=0.001$), as shown in Table 7. This is consistent with the situational theory: the economic consequences of corporate information

disclosure are not static, but highly dependent on the constraints of the external organizational situation. Yi et al. pointed out that companies that loudly promoted CSR during the crisis actually experienced a significant drop in stock prices, because investors viewed it as an agency problem [11]. Bae et al. also pointed out that CSR does not always provide an "insurance effect" during a crisis [8]. After the outbreak of the pandemic, if companies maintain a high-profile and positive tone when their performance is under pressure, this "cognitive dissonance" is more likely to be interpreted by the market as an aggressive signal to cover up the crisis, thus incurring a more severe valuation penalty.

Table 6. Heterogeneity analysis (c)

Variable	Coefficient	Robust std. err.	t	P>t
LM_Tone1	0.2425	0.1330	1.8200	0.0680
TopTenHoldersRate	0.0041	0.0209	0.2000	0.8430
Growth	0.0093	0.0021	4.3300	0.0000
InsInvestorProp	-0.0682	0.0133	-5.2000	0.0000
Leverage	-0.2088	0.0177	-11.7600	0.0000
Age	-0.0273	0.0082	-3.3700	0.0010
Size	0.0191	0.0024	7.8900	0.0000

Table 7. Heterogeneity analysis (d)

Variable	Coefficient	Robust std. err.	t	P>t
LM_Tone1	-0.3028	0.0917	-3.3000	0.0010
TopTenHoldersRate	0.0934	0.0182	5.1300	0.0000
Growth	0.0044	0.0032	1.4600	0.1450
InsInvestorProp	0.0413	0.0314	1.2400	0.2160
Leverage	-0.2627	0.0191	-13.7900	0.0000
Age	-0.0046	0.0140	-0.3300	0.7510
Size	0.0286	0.0023	12.2300	0.0000

4.4. Robustness test

To ensure that the above findings are not due to randomness in the variable measurement method, this paper re-estimates the regression coefficient using the alternative tone index Ntsd_Tone1, which is -0.4076, significantly negative at the 1% level, as shown in Table 8. This is highly consistent with the main regression results, eliminating the interference of the index construction method and confirming the robustness of the conclusion that "overly aggressive CSR tone predicts lower profitability."

Table 8. Robustness analysis

Variable	Coefficient	Robust std. err.	t	P>t
Ntsd_Tone1	-0.4076	0.0535	-7.6100	0.0000
TopTenHoldersRate	0.0645	0.0141	4.5800	0.0000
Growth	0.0082	0.0020	4.1800	0.0000
InsInvestorProp	0.0378	0.0094	4.0300	0.0000
Leverage	-0.2362	0.0139	-17.0000	0.0000
Age	-0.0006	0.0034	-0.1600	0.8720

Table 8. (continued)

Size	0.0208	0.0017	11.9400	0.0000
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5. Conclusion

This paper conducts a textual analysis of corporate social responsibility (CSR) reports of Chinese A-share listed companies from 2008 to 2024 to explore the intrinsic logic between the tone of the report and corporate profitability. The results reveal a thought-provoking phenomenon: the overly positive tone in CSR reports is not a "barometer" of future corporate performance, but rather a "fig leaf" for potential operational risks. This finding of a significant negative correlation between tone and profitability strongly supports the applicability of Impression Management Theory in the field of non-financial information disclosure. As Hamza and Jarboui pointed out, tone management is essentially a strategic information manipulation tool. Management tends to use rhetorical "beautification" to obscure the fundamentals of the company and cover up negative organizational outputs. When companies face performance pressure, this strategic tone modification evolves into a typical "greenwashing" behavior, that is, the positive image constructed by the company at the text level is seriously deviated from its substantive financial performance, which also confirms Yu et al.'s observation on the phenomenon of "inconsistency between words and deeds" among companies worldwide.

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