The Analyst Lens: How CSR Catalyzes Corporate Value in China

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Abstract: Using a panel of 20,947 firm-year observations from Chinese A-share listed firms (2010-2020), we apply high-dimensional fixed effects models controlling for time, industry, and province effects. Results show CSR coefficients of 0.052 ($p<0.01$) for ROA and 0.4 ($p<0.01$) for Tobin's Q. Analyst attention mediates these effects, with indirect effects of 0.01 for ROA and 0.326 for Tobin's Q. Heterogeneity analysis reveals stronger effects in non-state-owned and high-pollution firms. Robustness and endogeneity tests further substantiate these conclusions, confirming the varying impact of CSR depending on firms' property rights and environmental status.

***Keywords*:** corporate social responsibility, analyst attention, corporate performance

1. Introduction

Corporate Social Responsibility (CSR) and Environmental, Social, and Governance (ESG) practices both aim to promote sustainable business development [1]. Under increasing pressure from external stakeholders, CSR has become an essential avenue for achieving long-term corporate sustainability [2]. Prior studies generally indicate that CSR enhances corporate value, reduces financial and default risks, and strengthens corporate resilience during crises such as the COVID-19 pandemic [3–5].

Financial analysts, as key information intermediaries in capital markets, play an important role in improving firms' information environments [6]. Analyst attention reduces information asymmetry, shapes how CSR information is transmitted, and improves forecast accuracy, suggesting that CSR disclosure enhances overall information quality [7–8].

Despite extensive research, several gaps remain. First, the relationship between CSR and corporate performance is inconsistent due to the lack of unified definitions and standardized evaluation systems [9]. Second, CSR effects vary across firms, with regional and firm-size differences leading to heterogeneous outcomes [10]. Third, the mediating role of analyst attention in the CSR–performance relationship has not been sufficiently examined. Although analyst attention has been found to partially mediate CSR's effect on corporate fraud suppression, its role in translating CSR into corporate performance remains unclear [11]. Moreover, differences in national institutional environments may shape the impact of CSR [12].

To address these gaps, this study investigates how CSR influences corporate performance through analyst attention. CSR serves as the explanatory variable, while Tobin's Q and Return on Assets (ROA) measure market and financial performance, respectively. Analyst attention is included as a mediating factor. We further examine the persistence of CSR effects and compare heterogeneous impacts between state-owned and non-state-owned firms, as well as between polluting and non-polluting firms. This framework responds to Aftab et al. (2024)'s call for research on CSR, firm capabilities, and performance, and provides new evidence on CSR mechanisms across different institutional environments [13].

2. CSR, Analyst Attention, and Corporate Performance: Hypotheses Development

A growing body of research shows that Corporate Social Responsibility (CSR) contributes to improved financial outcomes. Higher CSR levels enhance corporate creditworthiness and reduce financial default risks (Boubaker et al., 2020) [3]. Supporting evidence shows that ESG combined scores positively correlate with firm value and profitability [14], while Aftab et al. (2024) also confirmed CSR's positive effect on financial performance [13]. These findings suggest that CSR strengthens stakeholder relationships and reduces risk, thereby improving financial outcomes.

H1: Corporations with higher levels of CSR demonstrate better financial performance.

Beyond accounting-based measures, CSR also affects market-based performance. ESG certification reduces firms' cost of capital and increases Tobin's Q (Wong et al., 2021) [15]. During the COVID-19 pandemic, CSR activities enhanced stock returns and stakeholder attention [5], and high-ESG portfolios outperformed low-ESG portfolios, particularly in crisis periods [16].

H2: Corporations with higher levels of CSR exhibit superior market performance.

Analyst attention plays an important role in how CSR affects corporate outcomes. As key information intermediaries,

analysts help reduce information asymmetry and enhance market efficiency [17–19]. Earlier studies established the link between corporate disclosures and analysts' forecasting activities [6], and subsequent research identified several pathways: (1) CSR disclosure enhances the information environment, improving analyst forecast accuracy [8]; (2) CSR engagement reduces information asymmetry, with analyst attention moderating this effect [7]; and (3) better CSR performance attracts favorable analyst assessments, influencing corporate decisions and outcomes. These insights suggest that analyst attention not only responds to CSR but also transmits CSR-related value to investors.

H3a: Higher CSR levels are associated with greater analyst attention.

H3b: Analyst attention mediates the relationship between CSR and financial performance.

H3c: Analyst attention mediates the relationship between CSR and market performance.

CSR also has temporal persistence. Studies show that its positive influence strengthens as ESG scores improve over time (Coelho et al., 2023) [20]. CSR contributes to long-term profitability and reputation [21] by building intangible assets such as brand image and customer loyalty [22].

H4: The impact of CSR on corporate performance is persistent over time.

Finally, the CSR–performance relationship varies across corporate characteristics. Evidence shows stronger CSR effects in advanced economies than in developing ones [23], and CSR-related environmental expenditures have greater effects on smaller or less open firms [24]. Corporate structures also matter: for example, CSR negatively influences family corporate performance unless board structures mitigate the effect [25].

H5: The impact of CSR on corporate performance varies depending on corporate characteristics.

3. Data, variables, and methodology

3.1 Data

Due to the discontinuation of Hexun's CSR ratings after 2021, recent studies often use ESG indicators. However, considering China's two decades of CSR development, Hexun's CSR data provide broader historical coverage and better industry relevance. Therefore, this study uses A-share listed firms from 2010–2020 as the main sample. We exclude: (1) financial firms due to their unique reporting systems; (2) ST, *ST, and PT firms; and (3) firms with substantial missing key variables. All continuous variables are Winsorized at the 1% and 99% levels to mitigate outlier effects. The final dataset contains 20,947 firm-year observations. Data are obtained from CSMAR, CSR reports, and the Hexun CSR Evaluation System.

3.2 Dependent variable

Corporate Performance (EP): Within the existing research, performance metrics for corporations encompass both financial and non-financial indicators. This paper adopts return on assets (ROA) to gauge financial performance. ROA is defined as the ratio of net profit to total assets and serves as an indicator of a corporation's efficiency in generating profits from its assets. Furthermore, Tobin's Q is utilized to assess market performance. It represents the market value of capital relative to its replacement cost.

3.3 Independent variable

Environmental, Social, and Governance (ESG) metrics, while recent and investor-focused, are contrasted with the more encompassing Corporate Social Responsibility (CSR) framework. CSR evaluates a corporation's impact on a diverse range of stakeholders, including shareholders, employees, customers, consumers, society, and the environment. This research opts for CSR as the explanatory variable, prioritizing ethical corporate conduct and comprehensive stakeholder engagement.

3.4 Intermediate variable

Analyst Attention(Analyst): To assess the role of Analyst Attention in the relationship between Corporate Social Responsibility (CSR) and corporate performance, this study employs the number of analyst teams tracking corporate reports as the primary indicator.

3.5 Control variables

The specific definitions of control variables are detailed in Table 1.

Table 1. Variable definition table

	Variable	Symbol	Definition
Dependent variable	Financial performance	ROA	Net profit/total assets
	Market performance	Tobin's Q	Market value/replacement cost of assets
Independent variable	Corporate Social Responsibility	CSR	The comprehensive score of the Hexun CSR index
Intermediate variable	Analyst attention	Analyst	Natural logarithm of the number of analyst teams +1 that track a listed company
Control variable	Listing age	ListAge	The number of years the corporation has been on the market to take the natural logarithm.
	Corporate size	Asset	Total assets taken as a natural logarithm
	Debt to assets ratio	DAR	Total liabilities/total assets
	Degree of combined leverage	DCL	Degree of operating leverage (DOL) × Degree of financial leverage (DFL)
	Fixed assets ratio	Fixed	The ratio of fixed assets to total assets
	Cash flows	CF	Net cash flow from operating activities/total assets
	Employee number	Employee	Natural logarithm of the number of employees in the corporate
	Corporate growth capacity	Growth	Revenue growth rate

3.6 Model construction

The model employed in this study is as follows:

$$ROA_{i,t} = \alpha_0 + \alpha_1 CSR_{i,t} + \sum_j a_j Controls_{i,t} + \lambda_j + \gamma_t + \mu_k + \varepsilon_{i,t} \quad (1)$$

$$Tobin?s\ Q_{i,t} = \alpha_0 + \alpha_1 CSR_{i,t} + \sum_j a_j Controls_{i,t} + \lambda_j + \gamma_t + \mu_k + \varepsilon_{i,t} \quad (2)$$

$$Analyst_{i,t} = \alpha_0 + \alpha_1 CSR_{i,t} + \sum_j a_j Controls_{i,t} + \lambda_j + \gamma_t + \mu_k + \varepsilon_{i,t} \quad (3)$$

$$ROA_{i,t} = \alpha_0 + \alpha_1 CSR_{i,t} + \alpha_2 Analyst_{i,t} + \sum_j a_j Controls_{i,t} + \lambda_j + \gamma_t + \mu_k + \varepsilon_{i,t} \quad (4)$$

$$Tobin?s\ Q_{i,t} = \alpha_0 + \alpha_1 CSR_{i,t} + \alpha_2 Analyst_{i,t} + \sum_j a_j Controls_{i,t} + \lambda_j + \gamma_t + \mu_k + \varepsilon_{i,t} \quad (5)$$

Models (1) and (2) serve as the baseline regression models, while Models (3), (4), and (5) are designed to test for mediating effects. In these models, $\tilde{a}_t$ represents the time-fixed effects, $\ddot{e}_j$ represents the industry-fixed effects, $\grave{i}_k$ represents the province-fixed effects, and $\mathring{a}_{i,t}$ is the random error term.

4. Empirical results

4.1 Descriptive statistical analysis

Table 2 reports the descriptive statistics for the key variables. The mean ROA is 0.048, ranging from –0.073 to 0.192, indicating relatively low but heterogeneous financial performance among Chinese listed firms. Market performance also shows substantial variation, with Tobin's Q averaging 2.045 and spanning from 0.861 to 8.758. CSR scores exhibit moderate variation, with a mean of 0.261 and values between –0.167 and 0.909. Analyst attention shows similar dispersion, averaging 1.548 and ranging from 0 to 4.331. Overall, the descriptive results suggest considerable differences in CSR engagement, analyst coverage, and corporate performance across the sample.

Table 2. Summary Statistics

VarName	N	Mean	Std	Min	Median	Max
ROA	20947	0.048	0.040	-0.073	0.038	0.192
Tobin's Q	20947	2.045	1.319	0.861	1.614	8.758
CSR	20947	0.261	0.154	-0.167	0.225	0.909
Analyst	20947	1.548	1.193	0.000	1.609	4.331

VarName	N	Mean	Std	Min	Median	Max
Asset	20947	22.339	1.321	17.757	22.156	28.636
Employee	20947	7.796	1.296	2.398	7.731	13.223
DAR	20947	0.434	0.200	0.007	0.429	0.993
DCL	20947	2.493	3.026	0.000	1.548	21.264
Fixed	20947	0.222	0.166	0.000	0.189	0.971
Growth	20947	0.403	1.087	-0.740	0.139	7.904
CF	20947	0.058	0.079	-0.192	0.057	0.291
Lage	20947	2.163	0.765	0.693	2.303	3.401

4.2 Regression results analysis

Table 3 presents empirical evidence on the CSR-performance relationship. Models (1) and (2) show that CSR positively affects both financial performance (α =0.052, $p < 0.01$) and market performance ($\alpha = 0.4$, $p < 0.01$), supporting H1 and H2. Model (3) indicates that CSR significantly increases analyst attention ($\alpha = 0.825$, $p < 0.01$), incorporating H3.

The mediation analysis in Models (4) and (5) reveals two key findings. First, analyst attention partially mediates the CSR-financial performance relationship (indirect effect =0.01, $p < 0.01$). Second, a similar mediating effect exists for market performance (indirect effect = 0.326, $p < 0.05$). These results support H3b and H3c, suggesting that CSR enhances corporate performance both directly and indirectly through increased analyst attention.

Additionally, we conducted a Sobel mediation test, which confirmed the mediating role of analyst attention. Using estimates derived from 5,000 bootstrap samples, we further validated the mediating effect of analyst attention.

Table 3. Hypothesis test regression results

VARIABLES	(1)	(2)	(3)	(4)	(5)
	ROA	Tobin's Q	Analyst	ROA	Tobin's Q
CSR	0.0525***	0.3997***	0.8228***	0.0439***	0.1315**
	(0.0026)	(0.0592)	(0.0495)	(0.0025)	(0.0591)
Analyst				0.0105***	0.3260***
				(0.0003)	(0.0178)
Asset	0.0004	-0.4307***	0.4487***	-0.0043***	-0.5770***
	(0.0004)	(0.0212)	(0.0133)	(0.0004)	(0.0206)
Lage	-0.0028***	0.1620***	-0.3000***	0.0004	0.2598***
	(0.0004)	(0.0170)	(0.0127)	(0.0004)	(0.0159)
Employee	0.0021***	0.0162	0.1016***	0.0010***	-0.0169
	(0.0004)	(0.0132)	(0.0115)	(0.0004)	(0.0131)
DAR	-0.0570***	-0.3252***	-0.6327***	-0.0504***	-0.1190*
	(0.0017)	(0.0695)	(0.0482)	(0.0016)	(0.0627)
Fixed	-0.0326***	-0.6656***	-0.3945***	-0.0285***	-0.5370***
	(0.0023)	(0.0770)	(0.0605)	(0.0021)	(0.0695)
Growth	0.0007**	0.0051	-0.0086	0.0008***	0.0079
	(0.0003)	(0.0081)	(0.0068)	(0.0003)	(0.0078)
DCL	-0.0028***	-0.0136***	-0.0539***	-0.0022***	0.0039
	(0.0001)	(0.0024)	(0.0025)	(0.0001)	(0.0025)
CF	0.1836***	2.6179***	2.0678***	0.1619***	1.9438***
	(0.0074)	(0.2189)	(0.1197)	(0.0065)	(0.1796)
Constant	0.0418***	11.2541***	-8.4527***	0.1304***	14.0097***
	(0.0067)	(0.4064)	(0.2496)	(0.0071)	(0.3981)
Sobel				0.009***	0.268***
Bootstrap (ind_eff) p-value				0.000 the indirect effect is significant	0.000 the indirect effect is significant
Year FE	Yes	Yes	Yes	Yes	Yes

VARIABLES	(1)	(2)	(3)	(4)	(5)
	ROA	Tobin's Q	Analyst	ROA	Tobin's Q
Industry FE	Yes	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes	Yes
Observations	20,947	20,947	20,947	20,947	20,947
R-squared	0.4854	0.3817	0.4332	0.5405	0.4310

Note: *, **, and *** are significant at the 10 percent, 5 percent, and 1 percent levels, respectively. Robust standard errors (clustered by industry-year) are in parentheses.

4.3 Robustness test

Investments in corporate social responsibility (CSR) accumulate as intangible assets—such as brand reputation, customer loyalty, and employee morale—that strengthen firms' competitive advantages and long-term performance. To assess the persistence of CSR effects, we conducted lagged regressions using t+1 and t+2 performance measures. As shown in the first four columns of Table 4, CSR in the current period significantly enhances corporate performance in both subsequent periods, confirming its lasting impact.

We further tested robustness through variable substitution and sample adjustment. ROA and Tobin's Q were replaced with ROE and the price-to-book ratio, respectively, and the results remained consistent with the baseline model. Additionally, excluding data from 2010–2011 (early CSR data collection) and 2019–2020 (COVID-19 disruptions) yields results that continue to show a significant positive effect of CSR on performance at the 1% level. Overall, these tests affirm the robustness and stability of our findings.

Table 4. Robustness Test Results

	Lag effect test				Substitute the dependent variable		Sample period change	
	(1)	(1)	(2)	(2)	(1)	(2)	(3)	(4)
VARIABLES	ROA_{t+1}	$ROA_{t+}2$	Tobin's Q_{t+1}	Tobin's Q_{t+2}	ROE	PB	ROA	Tobin's Q
CSR	0.0423***	0.0354***	0.4617***	0.2008***	0.1052***	0.7084***	0.0440***	0.4028***
	(0.0032)	(0.0034)	(0.0554)	(0.0593)	(0.0054)	(0.1235)	(0.0025)	(0.0702)
Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	17,784	15,001	17,784	15,001	20,947	20,947	13,151	13,151
R-squared	0.2732	0.1926	0.3891	0.3823	0.3678	0.3686	0.4742	0.4379

4.4 Endogeneity analysis

There may be endogeneity issues between corporate social responsibility (CSR) and corporate performance. Because corporate performance can influence a corporation's investment in corporate social responsibility (CSR). To address this, we first use a fixed-effects model. Then, we use the average CSR of all corporates in the current year as an instrumental variable. This choice ensures the variable is related to the explanatory factor and not affected by individual corporate behaviour, meeting the criteria for instrumental variables. As shown in Table 5, the regression results offer strong evidence. They demonstrate that a corporation's involvement in CSR activities positively impacts its performance.

Table 5. Endogeneity test

	(1)	(1)	(2)
VARIABLES	CSR	ROA	Tobin's Q
CSR_MEAN	0.888***		
	(0.009)		
CSR		0.0761***	0.9722***

	(1)	(1)	(2)
VARIABLES	CSR	ROA	Tobin's Q
		(0.0027)	(0.0977)
Control	Yes	Yes	Yes
Year	Yes	Yes	Yes
Industry	Yes	Yes	Yes
Province	Yes	Yes	Yes
Anderson canon. corr. LM statistic	6962.60***		
Cragg-Donald Wald F statistic	10366.94***		
Endogeneity test		114.483***	51.959***
Observations	20,947	20,947	20,947
R-squared	0.3324	0.4097	0.1920

4.5 Heterogeneity analysis

This section examines how the effect of CSR on corporate performance differs by ownership structure and pollution level. Firms are classified as state-owned (SOEs) or non-state-owned (non-SOEs), and independently as high-pollution (HP) or low-pollution (LP). We conduct separate regressions for each subgroup and assess differences in effect size using Fisher's exact test with 1,000 random samples.

As shown in Table 6, CSR has a stronger impact on non-SOEs: the CSR coefficient is 0.074 for non-SOEs and 0.036 for SOEs, both significant at the 1% level, and Fisher's test (0.038) confirms the difference. CSR also exerts a larger influence on the market performance of non-SOEs. Regarding pollution attributes, CSR significantly improves market performance only in low-pollution firms, while its positive effect on financial performance is more pronounced in high-pollution firms. Overall, CSR affects corporate performance through distinct mechanisms across different ownership and industry characteristics.

Table 6. Heterogeneity regression.

	non-SOEs	SOEs	non-SOEs	SOEs	LP	HP	LP	HP
VARIABLE	ROA	ROA	Tobin's Q	Tobin's Q	ROA	ROA	Tobin's Q	Tobin's Q
CSR	0.0739***	0.0359***	0.4679***	0.2991***	0.0506***	0.0820***	0.4870***	0.3065*
	(0.0044)	(0.0025)	(0.0973)	(0.0642)	(0.0025)	(0.0120)	(0.0597)	(0.1839)
Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,876	12,070	8,876	12,070	3,600	17,343	3,600	17,343
R-squared	0.498	0.491	0.425	0.375	0.590	0.474	0.341	0.392
Fisher's Exact Test	0.038***		0.169*		-0.031***		0.181**	

5. Conclusion

Our research demonstrates that Corporate Social Responsibility (CSR) significantly improves corporate performance, including financial and market performance. We find that CSR enhances its impact on corporate performance by increasing analyst attention. The enduring effects of CSR are also validated. Activities in the current year substantially influence performance in the following year, highlighting the sustainability of CSR in promoting corporate performance. In our analysis of heterogeneity, we find that CSR has a significantly greater impact on the financial performance of non-state-owned corporations compared to state-owned corporations. Additionally, CSR shows a stronger positive influence on the financial performance of high-pollution corporations. These findings suggest that the effects of CSR vary by ownership structure and pollution levels, offering crucial insights for corporate sustainability and stakeholder decision-making.

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