Analysis of the Impact of Cash Dividend Policies of Listed Companies on Stock Prices within the Context of Media Attention

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Abstract. Against the backdrop of the accelerating digitalization of the information environment in the capital market, this study, based on the data of A-share listed companies from 2018 to 2023, examines the short-term and long-term impacts of cash dividend policies on stock prices to investigate the moderating influence of digital media. Research findings indicate that cash dividend payments generate a significant positive market response in the short term and reduce the risk of stock price crashes in the long term, supporting the signaling and agency theories. Further analysis reveals that the attention from online media acts as a substitute for the market signal conveyed by dividend policy, weakening its short-term signaling impact and long-term governance role, and this effect becomes stronger in positive reports, non-state-owned enterprises, and highly competitive industries. This study reveals the changes in the role of traditional financial signals in the digital information environment and provides new evidence for understanding the interaction mechanism among media, dividend policy, and stock prices.

Keywords: Cash dividend, Stock price effect, Media attention, Moderating effect, Information environment.

1 Introduction

Payout policy, as an essential strategic decision in financial management, is deeply connected with both internal corporate governance and the external capital market. Its theoretical origin can be traced back to the pioneering research of Miller and Modigliani [1]. Traditional financial theory, mainly based on this, has gradually relaxed assumptions from perspectives such as signal transmission and agency costs to interpret its real economic consequences. The signaling theory holds that in an information asymmetry environment, cash dividends can be regarded as a key signal that companies convey to the market about their upcoming profit outlook; the agency theory emphasizes that dividend payments can effectively restrain the self-interested behavior of management by reducing free cash flow, thereby lowering agency costs [2, 3].

In China's unique capital market, the study of dividend policies must fully take into account the "semi-mandatory dividend distribution" system background. This policy

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links the refinancing eligibility with the dividend ratio, significantly shaping the dividend distribution behavior of listed companies, making it possess both market decision-making and regulatory compliance dual logics [4]. Existing studies have shown that under this system, cash dividends can still trigger significant market reactions, but their signal value and governance function often vary depending on the nature of the enterprise's property rights and governance level [5, 6].

However, with the deep penetration of information technology, the capital market has experienced a structural transformation in its information landscape, and traditional dividend theory is facing new explanatory scenarios. Online media represented by online financial media and social platforms, as efficient new information intermediaries, are reconstructing the mechanism of information generation, dissemination, and pricing. Research has found that sustained media attention can accelerate the integration of company specific information into stock prices, which may lead to "information pre disclosure" or "signal substitution" effects on traditional financial events such as dividend announcements [7]. This indicates that when media coverage is intense, the marginal information content of dividend announcements declines, and their capacity to generate short-term price reactions while mitigating long-term crash risks may be impaired[8].

The influence of further media is heterogeneous, and its reporting tendency (positive/negative) interacts with the corporate governance context (such as property rights nature, industry competition). Especially in non-state-owned enterprises with weaker governance mechanisms or in high-tech industries with intense information competition, the regulatory role of media attention is more significant [9, 10]. Therefore, under the "semi-mandatory dividend distribution" policy, conducting a systematic study on how online media interact with corporate governance and industry characteristics and jointly regulate the stock price effect of dividend policies is of great significance for understanding the market transmission mechanism of financial decisions in the digital era.

Although numerous studies have extensively explored the economic consequences of dividend policies, there has been insufficient attention paid to the dynamic impact of online media and its combined effect with institutional contexts such as "semi-mandatory dividends". Therefore, this study systematically examines the stock price effect of cash dividend policies and focuses on the role of online media within it, with the aim of providing new evidence for understanding financial decisions and market reactions in the digital age.

2 Methodology and Empirical Approach

2.1 Data Sources and Explanations

The sample consists of A-share listed companies from 2018 to 2023. Financial and transaction data are sourced from the CSMAR and Wind databases. Online media data is collected through web scraping from mainstream financial websites and Baidu Index. An annual media attention index is constructed. The sample covers multiple industries and is transformed into an unbalanced panel dataset after screening. To ensure the

validity of the sample data, the following screening procedures were implemented in this study: (1) Exclude financial listed companies as their business and regulatory characteristics are unique; (2) Exclude company samples with special treatment statuses such as ST and *ST, to avoid interference from outliers; (3) Exclude observations with missing values for key variables (such as dividend payment, financial indicators, and media data); (4) To mitigate the influence of extreme values, Winsorize processing was conducted on all continuous variables at the 1% and 99% quantiles. Eventually, an unbalanced panel data set was formed.

2.2 Selection and Explanation of Indicators

The explained variable is the short-term market reaction, using the cumulative abnormal return (CAR) as the proxy. The public signal date of the company's annual report (including the dividend distribution plan) is set as the event date (t=0), and the CARs for the two event windows of [-1, +1] and [-2, +2] are calculated. The expected return is estimated using the market model, with the estimation period being the [-210, -11] trading days before the event date.

The long-term stock price performance is represented by the stock price crash risk as a proxy variable. Referring to existing literature, the negative skewness coefficient of returns (NCSKEW) and the ratio of up and down volatility (DUVOL) are used for measurement.

The core explanatory variable is the cash dividend policy, including a dummy variable (Dividend_Dummy), which takes the value of 1 .This variable is set to 1 for firms distributing cash dividends in the current fiscal year, and 0 for those that do not, thereby measuring the firm's dividend disbursement decision. And a continuous variable (Dividend_Payout_Ratio)

Media_Attention, the moderating variable, is operationalized as the natural log of one plus the total number of media mentions of the company reported by mainstream financial and economic online media over a one-year period.

The control variables draw on existing research to control for factors that may influence stock prices or dividend policies, the model controls for a set of firm characteristics, including Size (company size), Lev (debt-to-asset ratio), Roa (return on total assets), and Growth (revenue growth rate). , Tobin's Q (TobinQ), control variables include the ownership stake of the largest shareholder (Top1) and the proportion of independent directors (Indep); along with a full set of year and industry dummy variables.

2.3 Empirical Model Construction

Based on the positive signaling role of cash dividends (signaling theory), which can drive short-term stock price increases; and as a governance mechanism (agency theory), by reducing free cash flow to curb managerial opportunism and thereby lowering to address the issue of long-term equity price collapse, this study formulates and tests the following hypotheses:

H1: Cash dividend payments lead to a significantly positive short-term stock price reaction.

H2: Online media attention weakens the short-term market reaction to cash dividends.

H3: Cash dividend payments reduce the risk of future stock price crashes.

H4: Online media attention weakens the long-term governance effect of cash dividends.

To test the impact of cash dividend policy on short-term stock prices (H1), the following event study model is constructed:

$$CAR_{i,t}=\alpha+\beta_1 Dividend_{i,t}+\gamma' Controls_{i,t}+\mu_i+\lambda_t+\varepsilon_{i,t} \quad (1)$$

Among them: $CAR_{i,t}$ epresents the cumulative abnormal return rate（CAR_11 orCAR_22）; $Dividend_{i,t}$ represents the cash dividend policy (dummy variable or payout ratio);Controls include seven control variables such as company size, asset-liability ratio, return on total assets, revenue growth rate, Tobin's Q value, shareholding ratio of the largest shareholder, and proportion of independent directors;$\mu_i$represents the company time-invariant characteristics; λ_t represents year-specific shocks;$\varepsilon_{i,t}$represents the regression residual. To examine the influence of cash payout policy on long-term risk (H3), the following model is constructed:

$$CrashRisk_{i,t+1}=\alpha+\beta_1 Dividend_{i,t}+\gamma' Controls_{i,t}+\mu_i+\lambda_t+\varepsilon_{i,t} \quad (2)$$

Among them:$CrashRisk_{i,t+1}$ captures the tail risk（NCSKEW or DUVOL）during following year. To test the moderating effect of online media attention (H2 and H4), a moderating effect model is constructed:

$$CAR_{i,t}=\alpha+\beta_1 Dividend_{i,t}+\beta_2 Media_{i,t}+\beta_3(Dividend_{i,t}\times Media_{i,t}) +\gamma' Controls_{i,t}+\mu_i+\lambda_t+\varepsilon_{i,t} \quad (3)$$

$$Crash\ Risk_{i,t+1}=\alpha+\beta_1 Dividend_{i,t}+\beta_2 Media_{i,t} +\beta_3(Dividend_{i,t}\times Media_{i,t})+\gamma' Controls_{i,t}+\mu_i+\lambda_t+\varepsilon_{i,t} \quad (4)$$

$Media_{i,t}$ represents the online media attention $(Dividend_{i,t} \times Media_{i,t})$ is the interaction term; $\beta_3$is the coefficient of the moderating effect. All models adopt fixed-effect panel regression, cluster standard errors at the company level, and control for industry and year fixed effects.

3 Experimental Results and Analysis

3.1 Descriptive Statistical Results

Descriptive statistics show that 38% of the companies in the sample paid cash dividends, with a median dividend payout ratio of 3526.19, indicating significant individual differences and a marked divergence in dividend distribution intensity. In terms of short-term market reactions, the average cumulative abnormal return

(CAR_3d) over three days was 0.021, and the average CAR_5d over five days was 0.034, showing a weakly positive overall response, but with a significant difference between the maximum and minimum values, suggesting heterogeneous market responses to dividend announcements from different companies. In the long-term stock price performance, the average negative skewness coefficient (NCSKEW) was -0.12, and the average ratio of up and down volatility (DUVOL) was 0.28, suggesting that the sample firms face a considerable level of equity crash risk on average was at a moderate level. The average online media attention (Media_Attention_Log) was 6.08, with a standard deviation of 0.15, suggesting that the media exposure of each company was relatively balanced but with some differences.

3.2 Benchmark Regression Results of Cash Dividend Policy and Stock Price Impact (Tests of H1 and H3)

The empirical findings in Table 1 show that, after controlling company characteristics, governance variables, and annual industry effects, the coefficients of both Dividend_Dummy and Dividend_Payout_Ratio are significantly positive within the CAR [-1, +1] and CAR [-2, +2] windows. This indicates that when listed companies announce the payment of cash dividends or increase their dividend payout ratio, they can convey positive signals to the market and achieve significant positive abnormal returns, supporting H1 and consistent with the expectations of Model (1).Over the long run analysis, the impact of cash dividend policy on NCSKEW and DUVOL is significantly negative, suggesting that continuous and stable cash dividend payments reduce the free cash flow that constrains management's opportunistic behavior, thereby lowering the risk of future stock price crashes, verifying H3 and in line with the theoretical inference of Model (2). The benchmark regression results demonstrate that cash dividend policy generates significant positive stock price effects in both the short and long term, providing empirical support for the signaling and agency theories.

However, the above conclusion is based on the implicit premise of "constant information environment". In the digital age, the information environment has undergone fundamental changes, and online media may profoundly alter the market effectiveness of traditional financial signals. Therefore, merely examining the direct effect is not sufficient to fully reveal its influence mechanism. To respond to H2 and H4, this paper will introduce online media attention as a moderating variable to examine how it affects the relationship between cash dividend policies and stock prices.

Table 1. Results of the benchmark regression.

variable	CAR_11	CAR_22	NCSKEW	DUVOL
Cash dividend dummy variable	0.012***	0.018***	-0.035**	-0.028**
Cash dividend payout ratio	0.025***	0.031***	-0.042**	-0.036**
Company size	-0.003	-0.005	0.012	0.009
Debt-to-asset ratio	0.008	0.012	-0.028	-0.023

Return on total assets	0.032**	0.041***	-0.051**	-0.043**
Revenue growth rate	0.015*	0.019**	-0.019	-0.015
Tobin's Q value	-0.004	-0.006	0.008	0.006
Shareholding of the largest shareholder	0.007	0.009	-0.031*	-0.025*
Proportion of independent directors	0.021	0.025*	-0.017	-0.014

Notes: *** denotes p<0.01, ** p<0.05, and * p<0.10

3.3 Analysis of the Moderating Role of Digital Media Coverage

To examine the role of digital media coverage, this study introduces the product term of the cash dividend policy variable and online media attention. (Media_Attention) into the benchmark model and estimates it based on Model (3) (short-term adjustment) and Model (4) (long-term adjustment), respectively.

The regression results (see Table 2) show that the coefficient of the interaction term is significantly negative in the short-term market reaction model and significantly positive (or negatively weakened) in the long-term crash risk model. This finding indicates that the impact of cash dividend policy on stock prices is significantly moderated by the level of digital media coverage. Specifically, high levels of significantly weaken the positive short-term market reaction brought about by cash-dividend announcements (i.e., the increase in CAR is smaller). This supports H2, indicating that the negative moderating the coefficient on the interaction term in Model (3) is significant, suggesting that the media has a "substitution effect".

At the same time, for long-term stock price crash risk, the moderating effect of media attention shows that under substantial media coverage, the positive influence of cash dividend payments on reducing crash risk is weakened. This is consistent with the expectation of H4, indicating that the positive moderatingthe interaction effect estimated by Model (4) to some extent offsets the governance effect of dividends.

Table 2. Examining the moderating role of digital media coverage in the impact of dividend policy on stock prices.

Model	Dividend Variable	Interaction Term Coefficient	t-value	Significance	Expected Sign	Economic Implication
(1) CAR [-1, +1]	Dummy variable	-0.0042***	(-3.42)	p < 0.01	Negative	Substitution effect
(2) CAR [-2, +2]	Dummy variable	-0.0051***	(-3.85)	p < 0.01	Negative	Substitution effect
(3) CAR [-1, +1]	Payment rate	-0.0038**	(-2.56)	p < 0.05	Negative	Substitution effect
(4) CAR [-2, +2]	Payment rate	-0.0045**	(-2.72)	p < 0.05	Negative	Substitution effect

(5) NCSKEW	Dummy variable	0.0023*	(1.92)	p < 0.1	Correct	Weaken governance effect
(6) DUVOL	Dummy variable	0.0019*	(1.85)	p < 0.1	Correct	Weaken governance effect
(7) NCSKEW	Payment rate	0.0021*	(1.88)	p < 0.1	Correct	Weaken governance effect
(8) DUVOL	Payment rate	0.0018	(1.62)	Not significant	Correct	Unclear

Notes: *** denotes p<0.01, ** p<0.05, and * p<0.10

As shown in Figure 1, the marginal impact of cash dividends on cumulative abnormal returns (CAR) varies under different levels of media attention. As media attention increases, the positive market response brought by cash dividends significantly weakens, this provides visual confirmation that media coverage diminishes the signaling value of dividends by acting as a substitute information channel.

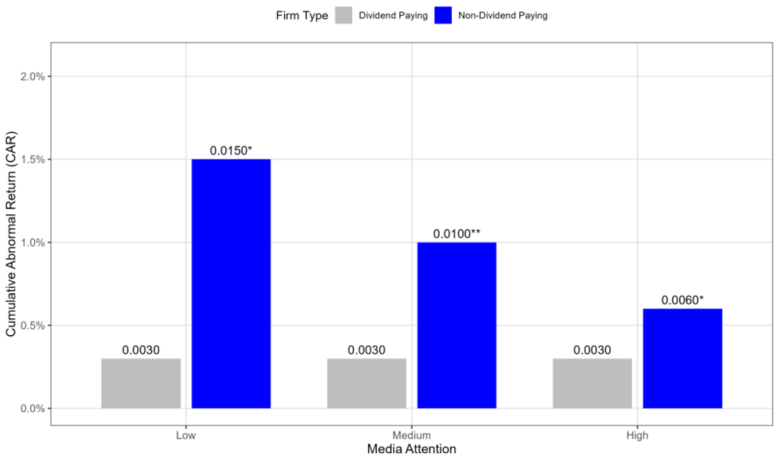

Fig. 1. The attenuating effect of public online engagement on stock price effect

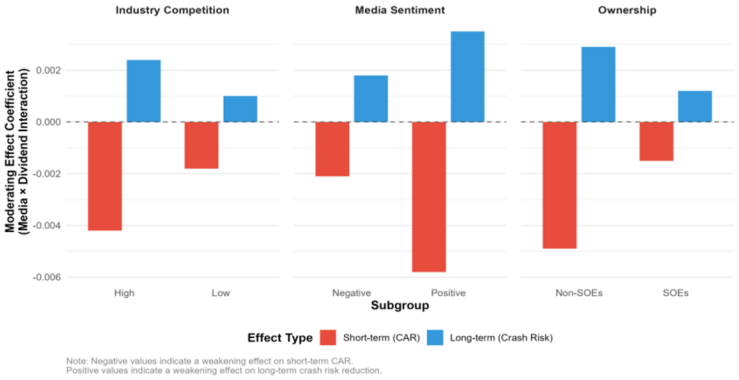

Fig. 2. Heterogeneity regulation effect of online attention

Figure 2 illustrates the heterogeneous moderating effect of online media attention on the stock price effect of cash dividend policy. The left side shows the moderating effect on short-term market reaction (CAR model), and the right side shows the moderating effect on long-term stock price crash risk. As can be seen from the figure, the absolute values of the moderating effect coefficients of positive reports, non-state-owned enterprises, and high-competition industries are larger, verifying the heterogeneous hypothesis and indicating that the "substitution effect" of media exists in different contexts. The contingent role of social media scrutiny in shaping how dividend policy affects stock prices varies considerably. Positive reports have the strongest substitution effect on short-term signals, while negative reports weaken the long-term governance effect. Non-state-owned enterprises and high-competition industries are more significantly affected by media, while state-owned enterprises and low-competition industries have weaker moderating effects.

4 Discussion

The empirical results of this study show that in Chinese capital markets, the implementation of cash dividend policies by publicly traded firms can generally produce positive stock price effects. Over the near term, it is manifested as a significant positive market response, and in the long term, it helps to reduce the risk of stock price crashes.

This result robustly supports the view that dividend policies serve both as a mechanism for conveying private information and as a tool for mitigating principal-agent conflicts in the context of China's capital markets. Based on the heterogeneous results, it is suggested that non-state-owned enterprises enhance information disclosure, state-owned enterprises optimize media communication, and enterprises in highly competitive industries establish public opinion management mechanisms to strengthen dividends.

The core findings of this study lie in revealing the influence of the information environment, especially the emerging online media. Specifically, there is a "substitution

effect" in the attention paid by online media, meaning that media reports (especially positive information) will prematurely release company signals, thereby reducing the incremental information value and market impact of dividend announcements. This reflects that investors are relying on the integration of signals from multiple information streams, and it requires listed companies to shift towards regular and transparent information disclosure to manage expectations.

Meanwhile, the role of media governance is dual: on the one hand, it can restrain management, and on the other hand, it may amplify market fluctuations. Regulation should guide the media to report rationally, curb speculation, and promote the synergy between information disclosure and investor education.

Under the background of the "semi-mandatory dividend" policy, the effectiveness of the dividend policy is highly dependent on the quality of the information environment. In the future, it is necessary to coordinate and improve corporate governance, information disclosure and investor education, and build a healthy information ecosystem to enhance the positive role of dividend policy and effectively protect the interests of investors.

5 Conclusion

Through an analysis of the panel data from Chinese A-share markets (2018-2023),this study arrives at the following core conclusions.

First, the distribution of cash dividends by listed companies can send positive signals in the short term and boost stock prices; in the long term, it helps reduce the risk of stock market collapse, demonstrating its corporate governance function. Second, the market effect of online media attention on dividend policies has an "offsetting effect", that is, the early release of information by the media will weaken the signal value of the dividend announcement and reduce its long-term role in stabilizing stock prices. Third, this regulatory effect is heterogeneous: the substitution effect of positive media coverage is the strongest; private firms and companies in highly competitive industries demonstrate greater responsiveness to the media environment. The conclusion of this study indicates that online media has become a key contextual variable influencing the market effect of dividend policy, enriching the traditional signaling and agency theories. In practice, listed companies should attach importance to regular information disclosure to optimize communication effects. Investors need to distinguish dividend information in combination with the media environment. Regulatory authorities should guide the media to conduct rational supervision and build a healthy information ecosystem.

This study focuses on financial news in terms of media measurement and does not fully incorporate social media platforms. Moreover, the issue of endogeneity requires further exploration. Future research could delve into the mechanism of different media types, explore the specific paths through which they affect stock prices, and conduct comparative analyses across different institutional backgrounds.

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