A Study on Online Voting of Minority Shareholders and Stock Price Trait Volatility Based on Data of Chinese Listed Companies

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Abstract. This article investigates the impact of medium and small shareholders' online voting on idiosyncratic volatility based on the data of all A-share listed companies in China from 2008-2021. The regression analysis finds that minority shareholders' network voting can significantly increase stock price idiosyncratic volatility. Second, this paper performs robustness tests in the form of replacement of explanatory variables, PSM tests, and excluding sample of significant event shocks, and the results show that the aforementioned findings remain valid. Additionally, the results of the mechanism test indicate that minority shareholders' voting enhances the level of stock price idiosyncratic volatility by improving information transparency. The heterogeneity results suggest that minority shareholder voting will significantly enhance share price idiosyncratic volatility for firms with stronger external monitoring power through Big four audit oversight. The paper provides new empirical evidence on the theoretical mechanism of minority shareholder network governance in influencing share price idiosyncratic volatility and provides a policy basis for the government to improve minority shareholder network voting.

Keywords: Minority shareholders online voting, Stock Price Idiosyncratic Volatility, Regression Analysis.

1. Introduction

Online voting is a means for small and medium investors to participate in corporate decision-making. Chinese investors are mostly individual investors, in which minority shareholders play an essential part. Against the background of the rapid development of the Internet, the vast majority of small and medium-sized shareholders prefer to participate in institutional governance via network voting rather than on-site voting. Hence, it is highly relevant to clarify the implications of minority shareholders' network voting participation on stock prices of listed companies. Because of the large number of small and medium-sized shareholders but less shareholding, on-site participation in the shareholders' meeting is not cost-effective.[1]. Nowadays, more small and medium shareholders are nowadays involved in multiple ways in the management of the company. The emergence and popularity of online voting has significantly reduced the cost of participation for minority shareholders, and online shareholder meetings have gradually become the main channel for minority shareholders to raise their demands.

From the research content, most of the existing literature studies the role of online polling of minority shareholders in their rights protection as well as corporate governance. For instance, Kong Dongmin et al. affirmed that it played an active governance role in the Internet environment. [2]; Wang Yutao believed that minority shareholders significantly enhance the corporate portfolio efficiency and had an important role for small and medium investors to defend their rights and interests [3]. Douchao et al. found that minority shareholders' feedback on social media was positively correlated with stock price volatility and had a significant impact on top-level corporate governance

aspects [4]. However, few studies have been conducted to explore the mechanism of the impacts of small and medium-sized shareholders' network voting on idiosyncratic stock price fluctuations. After Roll proposed stock price asynchrony, a vast amount of domestic and international literature has analyzed and tested it from the perspective of firm idiosyncrasy. Zhu Lin et al. tested that negative analyst report disclosure was related to stock price idiosyncratic volatility in a significant negative way, and the higher the information content of analyst reports, the lower the stock price idiosyncratic volatility [5]. Instead, this paper examines the governance role of minority shareholder network voting by combining minority shareholder network voting with idiosyncratic stock price fluctuations to reveal its governance mechanism.

The scientific input of this paper is mainly in the three areas as follows. First, this article aims at the impact of small and medium-sized shareholders' network voting on the idiosyncratic volatility of stock prices, which can enrich the study of minority shareholder participation in decision making on stock idiosyncratic risk. Previous literature has mostly explored the impact of minority shareholder governance on firm value and investment efficiency , but this paper links minority shareholder network voting to the problem of stock price idiosyncratic volatility and finds that minority shareholder network voting can increase it, which expands the scope of minority shareholder-related research.

Next, this essay further probes the mechanics of minority shareholder network voting on stock price idiosyncratic volatility and reveals that minority shareholder network voting can improve the transparency of company information and enhance stock price idiosyncratic volatility, further opening the black box between minority shareholder network voting and stock price idiosyncratic volatility.

Finally, this paper examines whether the Big Four audit affects the heterogeneity of minority shareholder network voting and share price idiosyncratic volatility, which is beneficial for regulators to formulate specific implementation plans for different types of companies and give full play to the promotion of policies.

2. Theoretical mechanism and hypothesis formulation

In the existing literature, the factors influencing stock price idiosyncratic volatility have been well studied, and from the external perspective of companies, scholars have analyzed the influence of stock price idiosyncratic volatility in terms of digital transformation [6], limited arbitrage [7], negative disclosure of analyst reports [8], and institutional investors [9] factors. From an intra-firm perspective scholar have analyzed the impact of managerial competence [10], margin financing [11] on the idiosyncratic volatility of stock prices.

The reason why it is difficult to protect the interests of minority shareholders is that it is difficult to express their own will. In the past, due to the underdeveloped network information, it was difficult for minority shareholders to participate in corporate governance and decision making, with the development of modern information technology, the implementation of online voting in shareholders' meetings of listed companies provides a lower cost way for minority shareholders to participate in corporate governance and decision making, which enables them to better participate in corporate governance and decision making and strengthens The management will also improve the quality of information disclosure, thus enhancing the transparency of information.

The greater the transparency of information, the better the degree of integration of idiosyncratic information into the share price, improving the transparency of information of listed companies can reduce the problem of investors judging the value of the company purely based on the share price, and can also reduce the uncertainty brought by the operation, investors can better understand the actual operation and intrinsic value of listed companies, so the higher transparency of internal and external information of the company can promote the information outflow of the company, the share price is less influenced by the stock market, and the share price synchronization is less influenced by

the stock market. The impact of stock market becomes smaller, the synchronous fluctuation of stock price is reduced, and then the idiosyncratic fluctuation of stock price is increased [12].

Hypothesis H1: When all else is equal, the participation of minority shareholders in online voting can remarkably increase the level of stock price volatility.

Hypothesis H2: All other things being equal, the participation of minority shareholders in online voting can improve the quality of information and thus increase the level of stock price idiosyncratic volatility.

3. Research Design

3.1. Sample Selection and Data Sources

This study targets all A-share quoted firms in China and takes 2008-2021 as the sample interval. The data in this paper are mainly from CSMAR database. To ensure the efficacy of the figures and to neutralize the impact of anomalous samples on the study findings, this paper deletes the samples of financial listed companies, abnormal samples such as ST and some samples with missing data and uses Winsorize method to shrink the continuous variables by 1 % before and after, and finally obtains 27176 sample observations.

3.2. Variable Definition

3.2.1. the Explained Variables

The essay refers to method of Zhang (2010) [13] to calculate stock price idiosyncratic volatility, and the process is as follows.

The three-factor model reflects that the excess return of the portfolio is interpreted by three factors: excess market yield, size, and book-to-market ratio (BM). First, the Fama-French triple factor MKT, SMB and HML are calculated for each day of the A-share market, and then run a regression using the following model:

$$R_{j,t} - R_t = \beta_{j,1} MKK_t + \beta_{j,2} SMB_t + \beta_{j,3} HML_t + \varepsilon_{j,t} \quad (1)$$

Where $R_{j,t}$ is the return on stock *j* in period *t* and R_t is the market risk-free rate. MKT_t is the return on the market factor in period *t*, SMB_t is the return on the size factor in period *t*, HML_t is the return on BM in period *t*, and $\varepsilon_{j,t}$ is the regression obtained residuals. The standard deviation of the resulting residuals on a monthly basis yields the stock price idiosyncratic fluctuations of stock *j* in that month. Then, the monthly stock price characteristic fluctuations are summed and averaged to obtain the annual stock price characteristic fluctuations.

3.2.2. the Explanatory Variables

The core explanatory variable of this paper is the participation of minority shareholders in online voting. In order to calculate the total shares attending the online shareholders ' meeting, this paper selects the company's meeting held by online voting, and takes the average value of the shares attending. The academic and practical circles usually define the major shareholders holding 5 % or more as the major shareholders of listed companies. Therefore, this paper defines the discrepancy among the aggregate shares present at the shareholders' meeting and the total votes of shareholders holding 5% or more of the shares as the number of shares present at the web-based shareholders' conferencethe for small and medium-sized shareholders. Then, this paper divides the number of shares of small and medium-sized shareholders by the total equity of the company attending the online shareholders ' meeting and obtains the proportion of shares of minority shareholders participating in the shareholders ' meeting, so as to construct the variable $Vote$ to measure the absolute degree of participation of minority shareholders in the shareholders ' meeting.

The specific formula is as follows:

$$Vote = \frac{TNShare - TNS\ more\ than\ 5\%}{TNShare} \quad (2)$$

TNShare: Total number of shares present at the web-based shareholders' conference
TNS more than 5%: Total shares of shareholders holding more than 5% of the shares

3.2.3. Control Variables

Drawing on existing related studies, this paper controls for basic company characteristics and governance structure, including company size (Size), gearing ratio (Lev), net profit ratio of total assets (ROA), number of directors (Board), proportion of independent directors (Indep), dual positions (Dual), shareholding ratio of top 10 shareholders (Top10), equity checks and balances (Balance1), Tobin's Q (TobinQ), whether it is a state-owned enterprise (SOE), years of listing (ListAge), and management ownership (Mshare). Furthermore, this study controls for industry and year dummy variables, and the relevant variables are defined as shown in Table.1.

Table 1. Definition of variables

Variable Symbols	Variable description	Variable definitions
Size	Company size	The natural logarithm of the total annual assets
Lev	Gearing ratio	Total year-end liabilities divided by year-end total assets
ROA	Total net asset margin	Net profit/average balance of total assets
Board	Number of directors	The number of Board of Directors is taken as the natural logarithm
Indep	Percentage of independent directors	Independent directors divided by the number of directors
Dual	Two jobs in one	The chairman and general manager are the same person 1, otherwise 0
Top10	Top 10 shareholders' shareholding ratio	Number of top ten shareholders shares / Total number of shares
Balance1	Shareholding Balance	The shareholding ratio of the second largest shareholder divided by the shareholding ratio of the largest shareholder
TobinQ	Tobin Q value	(Market value outstanding + number of non-tradable shares, net assets per share + book value of liabilities) / total assets
SOE	Whether it is a state-owned enterprise	The value of state-controlled enterprises is 1, and the others are 0
ListAge	Years on the market	In(Current Year - Year of Launch +1)
Mshare	Percentage of management ownership	Management shareholding data divided by total share capital

3.3. Model Construction

In order to examine the relationship between network voting by minority shareholders and idiosyncratic stock price fluctuations, the following model was designed:

$$Volatility_{j,t} = \beta_0 + \beta_1 Vote_{j,t} + \sum_k \gamma_k Contron_{k,j,t} + \sum Industry + \sum Year + \varepsilon_{j,t} \quad (3)$$

Where $Volatility_{j,t}$ is a proxy variable for idiosyncratic stock price fluctuations in year t of the j stock, and $Vote_{j,t}$ is a proxy variable for network voting by minority shareholders. $Control_{k,j,t}$ is a series of control variables. $\sum Industry$ and $\sum Year$ are industry and year fixed effects for controls. The coefficient β_1 of $Vote_{j,t}$ indicates the effect of minority shareholder network voting on share price idiosyncratic volatility. A positive β_1 indicates that minority shareholder network voting increases share price idiosyncratic volatility; a negative β_1 indicates that minority shareholder network voting mitigates share price idiosyncratic volatility.

4. Empirical Results

4.1. Descriptive statistical analysis

Descriptive statistics of variables are shown in Table 2. In 27176 research samples, the mean value of stock price idiosyncratic volatility is 0.019, the standard deviation is 0.006, the minimum value is 0.007, and the maximum value is 0.042, indicating that there are some differences in stock volatility among different companies. The mean value of minority shareholders ' online voting (vote) is 0.098, the standard deviation is 0.112, the minimum value is 0, and the maximum value is 0.539, indicating that there are significant differences in the participation rate of minority shareholders ' online voting in different companies. The sample descriptive characteristics of the control variables are basically consistent with the existing literature.

Table 2. Descriptive statistics results

variable	N	mean	sd	min	p25	p50	p75	max
volatility	23529	0.019	0.006	0.007	0.015	0.018	0.023	0.042
vote	23529	0.098	0.112	0	0	0.061	0.152	0.539
Size	23529	22.16	1.168	19.950	21.30	22.01	22.86	26.19
Lev	23529	0.412	0.196	0.057	0.255	0.405	0.557	0.886
ROA	23529	0.047	0.057	-0.238	0.017	0.043	0.076	0.225
Board	23529	2.118	0.193	1.609	1.946	2.197	2.197	2.639
Top10	23529	0.593	0.142	0.243	0.489	0.603	0.705	0.903
Balance1	23529	0.368	0.279	0.012	0.128	0.292	0.579	0.994
TobinQ	23529	2.028	1.159	0.856	1.276	1.659	2.351	8.888
ListAge	23529	2.025	0.895	0	1.386	2.197	2.773	3.332
Mshare	23529	0.150	0.201	0	0	0.019	0.290	0.689
Occupy	23529	0.013	0.018	0	0.003	0.007	0.015	0.141
SOE	23529	0.306	0.461	0	0	0	1	1
Dual	23529	0.301	0.459	0	0	0	1	1

4.2. Correlation Test

In order to test whether there is multicollinearity between the variables, Spearman and Pearson correlation coefficient test and variance inflation factor (VIF) test are conducted in this paper, and the results are shown in the Table.3. The results in the table show that the correlation coefficient between minority shareholders' network voting and stock price idiosyncratic fluctuations is significantly positive, which initially verifies the hypothesis that minority shareholders' network voting has a positive effect on stock price idiosyncratic fluctuations in the article. The correlation coefficients between all the explanatory variables are less than 0.6, indicating that there is no multicollinearity problem among the explanatory variables. In addition, the variance inflation factor test is conducted in this paper, and the mean value of VIF is 1.5, and the VIF value of each variable is much less than 10, which further verifies that there is no multicollinearity problem among the variables.

Table 3. VIF test

Variable	VIF	1/VIF
ListAge	2.35	0.426
Size	2.15	0.465
Lev	1.73	0.577
Top10	1.72	0.580
Mshare	1.65	0.607
SOE	1.55	0.646
ROA	1.4	0.714
TobinQ	1.29	0.777
vote	1.25	0.803
Board	1.15	0.869
Dual	1.14	0.876
Occupy	1.09	0.916
Balance1	1.07	0.935
Mean VIF	1.5	

4.3. The Empirical Results

4.3.1. Basic regression results

Table 4. Basic regression results

	(1)	(2)
vote	0.004***	0.002***
	(8.126)	(3.047)
Size		-0.000
		(-1.399)
Lev		0.006***
		(8.007)
ROA		0.006***
		(7.219)
Board		-0.001
		(-0.921)
Top10		-0.004***
		(-5.534)
Balance1		0.001***
		(3.480)
TobinQ		0.001***
		(23.316)
ListAge		-0.007***
		(-22.111)
Mshare		-0.004***
		(-5.613)
SOE		0.001***
		(3.172)
Dual		-0.000
		(-1.484)
Constant	0.026***	0.036***
	(28.184)	(12.287)
Observations	27,176	27,176
R2	0.2203	0.3903
Year FE	YES	YES
Indus FE	YES	YES

Values in parentheses are standard errors, ***, ** and * represent significant level at 1%, 5% and 10%, respectively.

Table 4 illustrates the effect of minority shareholder network voting on stock price idiosyncratic volatility, with time and industry effects controlled. With no control variables included, the first column of the regression results shows that network voting by minority shareholders is positively associated with idiosyncratic stock price fluctuations with a coefficient of 0.004, which is significant at the 1% level. The regression results adding the control variables are shown in the second column of Table.4. The coefficient of minority shareholders' network voting decreases to 0.002, which is still significant at a confidence level of 1 %. The result indicates that minority shareholders' network voting still significantly increases stock idiosyncratic volatility after taking other factors into account, verifying the validity of hypothesis H1. Among the control variables, the increase in the firm's gearing ratio, net profit ratio of total assets, Tobin's Q, and equity checks and balances significantly increase the stock price idiosyncratic volatility. The nature of the enterprise as a state-owned enterprise also has a significant positive relationship with the share price idiosyncratic volatility. Shareholdings of the top ten shareholders, the shareholding of the management, and the establishment of the company are all negatively correlated with the idiosyncratic fluctuation of the stock price.

4.4. Robustness Tests

To verify the robustness of the above benchmark regression results, the paper conducts robustness tests in terms of replacing explanatory variables, PSM tests, and excluding samples with significant event shocks.

4.4.1. Substitution of core explanatory variables

Firstly, the core explanatory variables are replaced with the core explanatory variables using Shoufu Xu and Wu Xia (2020) [14] measure of the relative degree of participation of minority shareholders in shareholders' meetings and re-run the regression. The specific calculation of this indicator is as follows:

$$Vote_2 = \frac{Vote}{1-Vote} \tag{4}$$

Secondly, this paper refers to the use of the number of network voting attendees to represent minority shareholders and large shareholders and the number of non-network voting attendees to represent large shareholders in Xixi Hu (2018) [15], and finally constructs the minority shareholder voting indicator Vote 3:

$$Vote_3 = \frac{Votew_{i,t}-Votex_{i,t}}{1000(1+Votex_{i,t})} \tag{5}$$

$Votew_{i,t}$ represents the average number of shareholders participating in the general meeting by online voting, while $Votex_{i,t}$ refers to the average number of shareholders participating in the general meeting by non-online voting.

Table 5 presents the regression results for the above alternative main explanatory variables, where columns (1) and (2) present the regression results after replacing the explanatory variables with Vote 2 and Vote 3, respectively. The results show that minority voting still contributes significantly to the level of stock price volatility, which confirms the robustness of the previous baseline regression results.

4.4.2 Propensity Score Matching Method (PSM)

To reduce the interference of data bias and confounding factors, this paper adopts the propensity score matching method for robustness testing. The specific approach is as follows: Firstly, the minority shareholders' voting data are sorted according to the size of the values taken, and the samples above the median are classified as the experimental group. Secondly, the remaining samples were matched with the nearest neighbor of the experimental group at a ratio of 1: 2 to establish a control group. The matching results passed the balance test. The results are shown in column (3) of Table 5,

and the coefficient of vote remains significantly positive, verifying the robustness of the minority shareholders' voting on stock price idiosyncratic volatility.

4.4.3 Excluding major event shock sample

The sample time of this paper is selected from 2008 to 2021. 2008 financial crisis, 2015 stock market crash, and the new crown epidemic from 2020 to 2021 all had a huge impact on the financial market and caused drastic fluctuations in the stock market. To avoid affecting of major historical events on the regression results, the paper excludes the samples of these years and conducts the regression again. The result is shown in the column (4) of Table.5, further verifying the robustness of the findings.

Table 5. Robustness test results

	(1)	(2)	(3)	(4)
vote2	0.001**			
	(2.465)			
vote3		0.001**		
		(2.357)		
vote			0.017***	0.006***
			(11.712)	(3.878)
Size	-0.000***	-0.000***	-0.000	-0.001***
	(-5.765)	(-5.741)	(-0.749)	(-12.740)
Lev	0.005***	0.005***	0.005***	0.004***
	(15.052)	(15.048)	(14.655)	(14.029)
ROA	0.005***	0.005***	-0.001	
	(6.097)	(6.104)	(-0.904)	
Board	-0.001**	-0.001**	-0.002***	-0.001***
	(-2.571)	(-2.567)	(-6.127)	(-2.932)
Top10	-0.001**	-0.001**	-0.002***	0.002***
	(-2.136)	(-2.174)	(-4.977)	(3.835)
Balance	0.001***	0.001***	0.001***	0.001***
	(4.937)	(4.936)	(6.574)	(4.711)
TobinQ_	0.002***	0.002***	0.002***	0.001***
	(31.554)	(31.569)	(39.685)	(21.177)
ListAge	-0.003***	-0.003***	-0.003***	-0.002***
	(-31.255)	(-31.254)	(-31.043)	(-24.769)
Mshare	-0.001*	-0.001*	0.000	-0.001**
	(-1.821)	(-1.819)	(0.179)	(-2.085)
Occupy	0.008***	0.008***	0.003	0.006***
	(3.959)	(3.956)	(1.269)	(2.823)
SOE	0.000	0.000	-0.000	0.000**
	(1.496)	(1.493)	(-0.597)	(2.534)
Dual	0.000	0.000	0.000**	0.000
	(1.213)	(1.214)	(2.166)	(0.424)
Constant	0.034***	0.034***	0.023***	0.040***
	(25.533)	(25.516)	(17.489)	(28.771)
Observations	23,529	23,529	23,529	14,818
R2	0.3895	0.3895	0.2334	0.2827
Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES

Values in parentheses are standard errors, ***, ** and * represent significant level at 1%, 5% and 10%, respectively.

5. Further Discussion

5.1. Mechanism Testing

The participation of minor shareholders in corporate governance can effectively mitigate agency problems, and the transparency of corporate information will affect its effectiveness. Improving corporate information transparency will help to improve the information asymmetry between major shareholders and minority shareholders, which in turn reduces the idiosyncratic stock price volatility [16]. To further provide further empirical evidence on the mechanism of the effect of minority shareholders' network voting on stock price idiosyncratic volatility, this paper selects information transparency as a mediating variable and uses surplus smoothing to measure information transparency, with higher surplus smoothing indicating poorer information transparency. Drawing on the research method of Zhonglin Wen [17], the following mediating effect model is constructed:

$$\begin{aligned} Volatility_{i,t} &= \alpha + \beta_1 vote_{i,t} + \gamma Control_{k,i,t} \\ ES_{i,t} &= \alpha + \chi_1 vote + \gamma Control_{k,i,t} + \varepsilon_{i,t} \\ Volatility_{i,t} &= \alpha + \lambda_1 vote + \lambda_2 ES_{i,t} + \gamma Control_{k,i,t} + \varepsilon_{i,t} \end{aligned} \tag{6}$$

The regression results of the mechanism test are shown in Table.6. In the first column, the regression coefficient of vote on ES is significantly negative, which expresses that minority shareholder voting significantly reduces surplus smoothing, i.e., it increases the information transparency of the firm. As shown in the second column of Table.6, the regression coefficient of ES on Volatility is significantly negative, and the regression coefficient of vote remains significantly positive after controlling for ES, verifying the mediating effect of information transparency. The results suggest that minority shareholders voting enhances stock price idiosyncratic volatility through information transparency.

Table 6. Intermediary effect test results

	ES	Volatility
vote	-0.024***	0.001***
	（-3.270）	(3.657)
ES		-0.001***
		(-3.272)
Control variables	Control	Control
Year FE	Control	Control
Industry FE	Control	Control
Observations	12,088	12,088
R2	0.102	0.429

5.2. Heterogeneity Analysis

The Big Four refers to four of the world's leading accounting and auditing firms: PricewaterhouseCoopers, Deloitte, KPMG, and Ernst & Young. The international "Big Four" accounting firms provide higher audit quality [18], more significant disincentives to manipulative accruals, and greater transparency of accounting information [19]. To further investigate whether Big 4 audits have an impact on the idiosyncratic volatility of minority shareholders' votes and stock prices, this paper divides the sample into two groups, Big 4 audits and non-Big 4 audits, based on whether the sample is audited by Big 4 accounting firms or not, and conducts regressions of model (1) separately, and the results are shown in Table.7. Column (1) is for the group of non-Big 4 auditors, and the results indicate that minority shareholders' voting is remarkably and positively related to stock price idiosyncratic volatility. In the group with Big 4 audit in column (2), minority shareholders' votes are not significantly related to stock price idiosyncratic fluctuations. The results indicate that companies supervised by Big 4 audits have stronger external monitoring power and better information

disclosure, based on which the effect of minority shareholders' voting on stock price idiosyncratic volatility is insignificant.

Table 7. Heterogeneity test result

	(1)	(2)
vote4	0.008***	0.006
	(5.783)	(1.505)
Control variables	Control	Control
Year FE	Control	Control
Industry FE	Control	Control
Observations	11,291	797
R2	0.387	0.450

6. Conclusion

The findings suggest that first, through the main regression analysis, we find that small and medium-sized shareholder network voting is positively and obviously associated with stock price idiosyncratic volatility. The conclusion still stands following a range of soundness tests including substitution of explanatory variables, PSM test (propensity score matching method), and excluding samples with significant event shocks. Second, the results of the mechanism test suggest that minority shareholders' network voting can increase share price idiosyncratic volatility by enhancing information transparency and hence share price idiosyncratic volatility. Third, the heterogeneity results indicate that the role of small and medium-sized shareholders' internet polling is more significant in the condition of having Big Four supervision in the two samples associated with whether Big Four audit supervision is present.

The article proposes the following policy proposals: In the backdrop of Internet development & China's economic transformation, listed companies should establish a perfect online voting system to facilitate the involvement of small and medium shareholders in the general assembly of the company via the Internet and to assure the fairness as well as transparency of voting results; this paper finds that minority shareholders' online voting has a positive impact on corporate governance and a positive impact on capital market information efficiency. The government and regulators should strengthen external supervision and information disclosure system, to improve corporate transparency, reduce the influence of market manipulation, insider trading and other illegal acts on share prices, and further improve capital market information efficiency.

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