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The Impact of Heterogeneous Market Sentiments on Corporate Risk-Taking and Governance

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Abstract: This research focuses on how market sentiment affects corporate governance in the Chinese market. The sample covers the years from 2014 to 2023. Market sentiment is estimated using a cross-sectional absolute deviation (CSAD) model, and earnings quality is used as an indicator of the consequences of corporate governance. Both mutual fund shareholding and the number of firm visits by mutual fund analysts are verified as effective corporate governance instruments that work well in a regular market but become ineffective when the market sentiment is high. The reason for this is that managers' expectations change, and they may believe that disclosing good news during high-sentiment market periods significantly increases the share prices and helps them meet their performance requirements. In a high-sentiment market, an incentive contract encourages managers to take on projects with inappropriate risk or even manipulate earnings. One potential solution is to adopt venture capital firms' high-water mark and clawback clauses to prevent managers from focusing on short-term goals rather than seeking long-term business sustainability.

Keywords: market sentiment; earnings quality; corporate risk governance; mutual fund shareholding; analyst firm visit; business sustainability

MSC: 91-10; 91B05; 91G50

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1. Introduction

Corporate governance efficiency and corporate responsibility have been extensively discussed in recent years. The field of corporate governance studies started with the well-known delegation problem and agency theory. It then developed to investigate incentive- and performance-related contract design using management science and decision theories. It has since then further extended to ethical studies and environmental and social governance (ESG) problems. Efficient corporate governance can reduce agency costs and lower delegation [1]. It can also increase business sustainability and better meet the requirements of different firm stakeholders. A well-organized firm that makes appropriate decisions, preferably those involving moderate risks, increases shareholder satisfaction and its market value [2].

There are many well-studied corporate governance behaviors. The most common method of corporate governance involves monitoring [3]. Internal monitoring occurs within a firm and involves no external party. For example, the inclusion of independent board members is an efficient method for reducing delegation costs, allowing firms to make decisions based on the expertise of the board members [4]. Other internal monitoring methods include utilizing different shareholders to supervise the firm's decision-making. External monitoring refers to supervision from outside of a firm. Some easy-to-observe

indicators of external monitoring include auditing fees and auditing relationships. Higher auditing fees and shorter auditing relationships are believed to be negative corporate governance signals [5].

Market sentiment and status may lead the managers to behave differently. Some reasons could be attributed to the incentive contract and performance pay sensitivities. The CEO's different attitudes could affect the firm's investment and dividend decisions, influencing the corporate governance quality and increasing the agency costs [6]. The CEO's attitude and sentiment could directly affect the firm's performance outcome and profitability [7]. The legal system and jurisdiction could affect regulatory decisions, agency, and delegation costs [8]. However, there are debates about rigorous law regimes. The lack of flexibility could hurt the firm's valuation [9]. In most developing economies, where there are no strict laws and regulations, incentives are the key factor that could affect corporate governance [10].

Shareholders may have different expectations in different market environments. Changes in market conditions may also lead managers to make different decisions [11]. Managers have an incentive to act in a certain way to maximize their own interests, which may deviate from shareholders' interests. They may choose the right time and the right market environment. For example, corporate decisions could be based on bullish or bearish market statuses [12]. The disclosure of more favorable information in a bullish market could have greater effects than disclosing the same information in an ordinary market environment.

The corporate governance theory stems from principal agency problems, and many solutions have been developed to mitigate the delegation problem and alleviate agency costs. Some famous discussions and solutions revolve around the reward design paid to managers, including using incentive contracts to regulate managers' behavior and vesting shares as part of managers' compensation and rewards to align their interests with those of shareholders [13]. Other studies emphasize internal and external monitoring, including creditor monitoring by debt covenants [14]. Internal monitoring involves auditors who verify the accounting information [15]. Institutional shareholders could provide efficient monitoring with their sophisticated knowledge [16]. Such management and corporate governance instruments are useful, but none is perfect. For example, incentive contracts could encourage managers to put effort into their firm's operation, but it may cause shareholders to lose control over the risks that managers take, which increases the agency's costs [17]. Making managers small shareholders by distributing shares as part of their reward increases the risk of the managers having personal wealth portfolios, thereby enhancing the pay–performance sensitivity, because firm shares and managers' labor income are highly correlated [18].

In this study, we show that some corporate governance methods could be effective in terms of the overall market status but become less effective in markets with higher investment sentiment. This difference could be attributed to the general tradeoff assessment of costs and benefits by managers; that is, managers may believe that the potential benefits of deviating from stakeholder's interests to maximize their self-interests are higher than the potential costs, which may incur the penalties of misconduct.

We chose the Chinese market as the target subject for this research for several reasons. First, China is the largest emerging market and has experienced high economic growth in recent years. Additionally, the Chinese market is attractive because it is a well-developed financial market [19]. Furthermore, China has a unique firm marketing structure, with a mixture of state-owned enterprises, well-diversified shareholder firms, and family-owned firms [20], which are all listed on the stock exchange market [21,22]. The high level of firm heterogeneity allows the exploration of the effectiveness of different corporate governance methods when facing different market statuses.

This study contributes in the following ways. First, research on the effectiveness of corporate governance methods when encountering heterogeneous market sentiments is limited. Most studies on corporate governance have focused on the effectiveness of

different methods for reducing agency costs or increasing shareholder wealth, but there is limited research discussing and exploring managers' incentives and behaviors when there is a significant shock or impact from the market environment. We classified different market environments and then examined the effectiveness of different corporate governance methods in relation to different market statuses. Second, we provide empirical evidence to enhance the literature, showing that corporate governance instruments' effectiveness is environmentally sensitive, and some methods could become insignificant or ineffective when the market environment changes. Furthermore, our study provides a reference for regulators and has practical value in the field of management.

2. Literature Review and Hypotheses

Efficient corporate governance effectively manages agency risk and aligns managers' interests with those of shareholders. The profitability performance and the transmitting mechanism of any good and bad news of a firm in relation to its share prices largely affect shareholders' wealth [23,24]. As many firms implement incentive contracts, it is common for managers' compensation to be connected with their firm's share performance [25,26]. Therefore, managers are motivated to increase their firm's share price, including using unethical ways to manage earnings or taking excessive risks to generate unsustainable temporary returns to attract market and investor attention [27,28].

Managers' behavior may be dependent on the market environment. In a market with higher investment sentiment, any good news could have a positive effect, but in a market with lower investment sentiment, good news may not have the expected positive effect [29,30]. The corresponding effects of risk management control instruments, including the effects of internal and external monitoring, are also dependent on the market environment and whether managers can hedge or manipulate the evaluation of the incentive clauses [31,32]. Some control methods may be effective in an ordinary market environment but lose their effectiveness in a market environment with high investment sentiment. The expected returns of unethical behavior in a market with high investment sentiment may increase the share price sufficiently such that the benefits of unethical behavior are perceived to be greater than the potential costs by the managers who make the decision.

Market investment sentiment can be captured by the variation in individual stocks and the overall market performance. In an ordinary market, when the overall market performance is high, the dispersion of stocks increases [33,34]. If all stocks experience high growth and their prices are close to the overall market value, it indicates that investors are not differentiating their stock picks and are investing in all stocks evenly, which increases their prices [35]. Such a market would experience high investment sentiment. However, when the dispersion of stock price growth differs significantly as the overall market performance increases, it indicates an ordinary market. Good and bad stocks can be clearly identified in such a market, as reflected in the diverse price changes. In this study, we used the cross-sectional absolute deviation (CSAD) index as the instrument to identify market sentiment. The CSAD differs from the market capitalization-weighted average, which is usually used to calculate stock index returns. The calculation of the CSAD uses the same weight for both small and large firms, and it is not biased toward large firms when compared with the calculation of stock index returns. The CSAD is calculated as shown in Equation (1):

$$CSAD_t = \frac{1}{N}\sum_{i=1}^{N}|R_{i,t} - R_{M,t}| \quad (1)$$

We made one change to Equation (1) and used the year's expected return from the capital asset pricing model (CAPM) rather than the actual return. The expected CSAD can then be calculated as shown in Equation (3):

$$E(R_{i,t}) = r_{f,t} + \beta_{i,t}\left(R_{M,t} - r_{f,t}\right) \quad (2)$$

$$CSAD_t = \frac{1}{N}\sum_{i=1}^{N}\left|r_{f,t} + \beta_{i,t}\left(R_{M,t} - r_{f,t}\right) - R_{M,t}\right| \quad (3)$$

Beta denotes the correlation between a firm's share and the overall market. The beta value of the market is 1; the beta value is usually greater than 1 for smaller firms and less than 1 if a firm is a large capitalization firm and belongs to a business circle less affected by the market.

$$CSAD_t = \frac{1}{N}\sum_{i=1}^{N}\left|(\beta_{i,t}-1)R_{M,t}+r_{f,t}-\beta_{i,t}r_{f,t}\right| \quad (4)$$

Since the market is believed to have a beta value of 1, the market index is biased toward large capitalization firms and has a beta value smaller than 1. Most firms (there are more middle- and small-sized firms in almost any index, but they have smaller weights when calculating index returns) in the index have beta values greater than 1. It is clear that market returns should positively affect the CSAD index, which is in line with the economic performance.

$$CSAD_t = \beta_0 + \beta_1|R_{M,t}| + \beta_2(R_{m,t})^2 + \varepsilon_t \quad (5)$$

Equation (5) models the impact of market returns on the CSAD index. A beta value of one is expected to have a significant positive impact. If market returns do not significantly increase the CSAD index and a larger market increase, as reflected by the square term, also does not increase the CSAD index, then the dispersions between individual stocks and the market do not increase as the overall market returns increase, indicating a high investment sentiment.

Earnings quality is measured based on the relationship between accruals and firm cash flows. The level of accruals, which reflects a firm's accounting net income and the cash collected, should show a stable relationship [36,37]. Any sudden change or break in the relationship would indicate a sudden change in the firm's risk-taking, a change in the client credit policy, or even manipulation of the firm's financial report. Equation (6) shows the relationship between accrual earnings and the change in operating cash flows. The residual captures the unexplained proportion of accrual earnings. A larger absolute value of the regression residual indicates a lower level of earnings quality, which means that corporate governance has become inefficient.

$$Accruals_{i,t} = \alpha_0\frac{1}{Asset_{i,t-1}} + \alpha_1\frac{CFO_{i,t-1}}{Asset_{i,t-1}} + \alpha_2\frac{CFO_{i,t}}{Asset_{i,t-1}} + \alpha_3\frac{CFO_{i,t+1}}{Asset_{i,t-1}} + \alpha_4\frac{\Delta sales_{i,t}}{Asset_{i,t-1}} + \alpha_5\frac{PPE_{i,t}}{Asset_{i,t-1}} + \varepsilon_{i,t} \quad (6)$$

2.1. Market Sentiment and Earnings Quality

As mentioned in the previous section, managers evaluate the costs and benefits of taking larger risks than they typically would in an ordinary market or even manipulate the financial report if the benefit of looking good increases their firm's share and meets the performance requirements of their compensation contract [38,39]. When the market sentiment is high, financial reports with greater numbers attract greater attention than they do under ordinary market conditions, so managers have a strong incentive to disclose good news during such a period. Therefore, we proposed the first hypothesis below:

H1. *Higher market sentiment leads to lower firm earnings quality.*

2.2. Shareholder Characteristics, Power, and Corporate Governance

Shareholder structure and power could have a direct effect on corporate governance. Shareholders provide internal monitoring and feedback via their voting rights. Large shareholders have dominant power since their large share positions mean that they have more votes. Smaller shareholders have a smaller voice, and their voting may not be able to change board election results [40,41]. In extreme cases, if the number of shares is large enough, the largest shareholder can appoint a general manager who will follow their operational decisions [42,43]. In most emerging markets, it is common for family-owned businesses to be listed on the stock exchange market. Family-owned businesses have one significantly large or a few large shareholders that dominate the board [44]. These

shareholders are usually family members, and they can jointly control the business. Even if there are other investors whom the family has sold a significant number of shares to during the business' initial public offering, it is difficult for other small and nonrelated investors to reach a consensus, whereas it is easier for members from the same family to reach a consensus [45]. Having more diversified large shareholders usually decreases such "board collusion" and signifies higher corporate governance.

Another significant feature is state-owned enterprises (SOEs). The government or a government-related entity usually controls such a firm. In the Chinese market, after SOEs have reformed, stock exchange-listed SOEs are controlled by government-related entities with dominant shares, but these firms also accept other minor investors [46]. SOEs are usually large capitalization firms. Their special government-related status leads to double agency problems. In addition, many SOEs have product or service prices that are controlled by the government. SOEs replace some government subsidies, and most of the services they provide have no true market competition. From an investor or shareholder perspective, SOEs do not maximize profits but provide a combination of economic benefits and the fulfillment of social obligations [47]. Managers also face different incentives in SOEs [48]. They need to be politically correct and closely follow new policies most of the time [49]. They are appointed by the local government, and their promotions are connected with political performance [50].

2.3. Institutional Shareholders and Corporate Governance

As mentioned in the previous section, the presence of a dominant shareholder may indicate lower corporate governance. One particular example is family-owned businesses. The opposite is also true. When the shareholder structure is diversified, there is no particularly dominant shareholder with excessive voting rights to control the board, and the decisions made by the board reflect the shareholders' true interests in the firm's projects and risk-taking [51]. Shareholders also monitor managers' unethical behaviors and provide higher levels of internal monitoring. Some shareholders are more knowledgeable, such as institutional investors. They have management experience and can provide additional monitoring to supervise managers' decisions in regard to whether they are truly benefiting the shareholders [52]. Among the different institutional investment tools available, mutual funds are a special investment tool that can signal to the market a target firm's value and the level of corporate governance [53]. Managers of mutual funds are investment specialists. When the market observes the investment behavior of a skilled mutual fund manager, this could create a herding effect, since most investors believe in the stock-picking skills of mutual fund managers and believe that they possess additional timely information; therefore, investors tend to follow the investment decisions made by mutual fund managers, which could further increase stock prices [54].

The advantage of investing in mutual funds is reflected in the information gathered by financial analysts working on these funds. Large funds usually have different financial analysts with different fields of expertise, who learn and analyze firm performance using their expertise. Since these experts know the firms and the industry to which each firm belongs, their prediction results could be of high quality owing to this information advantage [55,56]. When they gather information, they not only make judgments based on what they know but also conduct on-site visits to firms. Through conversations with management about new products and services, mutual fund analysts learn about competition between their firm and other firms in the same industry and gather other valuable financial and performance-related information. These analysts visit firms that they believe to have greater investment value, so the number of firm visits by mutual fund analysts acts as a signal to the market about their investment interests in a mutual fund [57,58]. Additionally, visits by these analysts could function as another type of efficient external monitoring [59,60]. Greater analyst coverage could efficiently reduce the likelihood that a manager hides information that may have a negative impact on the firm, forcing managers

to make timely disclosure about any negative news that may adversely affect their firm's value. Following the above logic, we proposed the following second and third hypotheses:

H2a. *Higher mutual fund shareholding improves shareholder diversification, which signals greater corporate governance.*

H2b. *A greater number of firm visits by mutual fund analysts improves shareholder diversification, which signals greater corporate governance.*

H3a. *Higher mutual fund shareholding efficiently reduces the negative agency effect for SOEs.*

H3b. *A greater number of firm visits by mutual fund analysts efficiently reduces the negative dominant shareholder effect.*

2.4. Effectiveness of Corporate Governance Instruments Under Different Market Sentiments

Market environment and returns can directly affect managers' project and investment decisions. When managers encounter incentive contracts where the pay–performance sensitivity is high, they could receive a larger reward by taking risks. Managers become ambitious if they believe that it would be easy to increase their firm's value in the current market environment by taking risks, and that they would get higher pay as a result [61]. When the financial market experiences high investment sentiment, all hot money rushes in, leading to herding behavior with respect to investment. The prices of shares will increase, and any positive news about a firm will further increase its value. From the perspective of managers, if they can take some excessive risks and boost their firm's earnings in a market with high investment sentiment, the reward they obtain through an incentive contract would be high as well [62]. Therefore, managers would have a strong incentive to remove any monitoring and constraints from the board or institutional investors. Ironically, from the perspective of institutional investors, under a market with high investment sentiment, mutual fund managers also have high incentive to let firm managers take excessive risks so they can easily sell high because of the special financial market conditions. Therefore, managers want to remove the constraint imposed on them, and mutual fund managers do not want to tightly monitor the managers; as such, the traditional supervision system that is valid under normal market conditions may not work under a market environment with high investment sentiment. From the above logic, we proposed the fourth hypothesis below:

H4. *Mutual fund shareholding and firm visits by mutual fund analysts are effective corporate governance instruments during market periods with regular sentiment but become ineffective during high-sentiment market periods.*

3. Data and Methodologies

3.1. Data

This study analyzed data collected between 2014 and 2022 on the Chinese financial market. The CSAD indices were calculated based on the HS 300 index stocks listed before 2014. Among the 300 stocks in the current HS 300 index, 198 stocks were listed before 2014. The daily price changes of those stocks were collected, and the CSAD indices were calculated using Equation (1). The market return was then regressed on each CSAD index, as shown in Equation (5). The beta values of the absolute term and the squared term were checked. If both were insignificant and did not explain the CSAD for a year, or if they negatively explained the CSAD, that year was considered to experience a market with high investment sentiment. The analysis results are shown in Table 1. Note that the years 2017 and 2021 both met the criteria for recognition as years with high investment sentiment.

The sample used for the analysis of the effectiveness of corporate governance was from 2014 to 2022. All firms listed in the stock exchange market before 2014 were included, except for firms in the finance industry, because of the different accounting treatments.

Furthermore, any firms that experienced financial distress were also excluded from our sample. All market- and firm-level financial information was collected from the Choice database. Since the estimation of earnings quality requires information on the cash flow from the previous, current, and subsequent years, the sample year 2023 was excluded, but it was used in the estimation of earnings quality. Table 2 below introduces the variable definitions and treatments; Table 3 shows the general statistics.

Table 1. Years with high investment sentiment.

Sample Year	Coefficient of the Absolute Market Return	Coefficient of the Squared Market Return	Market Sentiment
Year 2014	0.08199	0.08304 **	Regular
	(0.09793)	(0.02772)	
Year 2015	0.37207 ***	−0.02409 **	Regular
	(0.08042)	(0.01168)	
Year 2016	0.39832 ***	−0.02471 **	Regular
	(0.04435)	(0.00806)	
Year 2017	0.11365	0.06892	High
	(0.11014)	(0.05772)	
Year 2018	0.03558	0.03747 **	Regular
	(0.06716)	(0.01827)	
Year 2019	0.097143 **	0.018400 *	Regular
	(0.042544)	(0.009926)	
Year 2020	0.1639655 ***	−0.0004238	Regular
	(0.0436232)	(0.0083774)	
Year 2021	0.10336	0.05092	High
	(0.10309)	(0.03553)	
Year 2022	0.166106 ***	0.005683	Regular
	(0.058852)	(0.016061)	
Year 2023	0.004422	0.081333 *	Regular
	(0.104884)	(0.048830)	

Note: ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively; standard errors are shown in parentheses.

Table 2. Variable definitions and treatments.

Variable	Symbol	Variable Treatment
Indicator of earnings quality; higher values indicate lower earnings quality	Abresidual	The absolute residual from Equation (6)
Alternative measure of earnings quality; higher values indicate lower earnings quality	RES	The absolute residual from Equation (16)
Indicator of shareholder diversification, showing the dispersion between the largest shareholder and the 10th shareholder	DIVER	(current largest shareholder's share percentage − current 10th shareholder's share percentage) − (last year's largest shareholder's share percentage − last year's 10th shareholder's share percentage)
Market investment sentiment	Sentiment	Equals 1 if the beta value of Equation (5) for a year is NOT positively significant, and the squared term of the market return has no significant positive coefficient
Mutual fund shareholding	FUND	The share percentage of mutual funds
Institutional investor firm visits	INSTVISIT	The number of times a firm has been visited by institutional investors
Largest shareholder's holding percentage	FIRST	The percentage share held by the largest shareholder
State-owned enterprise	SOE	A binary variable that takes a value of 1 if a firm is owned by the government or a government-related entity

Table 2. *Cont.*

Variable	Symbol	Variable Treatment
Firm liability ratio	Liab	The ratio of liabilities to assets
Current ratio	Current	Current assets/current total assets
Earnings before interest, taxes, depreciation, and amortization	EBITDA	Observable earnings before interest, taxes, depreciation, and amortization
Book value per share	BPS	Observable book value per share
Earnings per share	EPS	Observable earnings per share
The volatility-adjusted trading volume	Trade	The trading volume of CSI 300 (units of 1,000,000 shares) is divided by the volatility. Volatility is defined as (year high − year low)/first trading day close price.
Innovation cost	Inno	The yearly innovation cost of the firm
Return on asset	ROA	Net profit divided by asset

Table 3. General statistics.

Statistics	N	Mean	St. Dev.	Min	Max
Abresidual	19,152	1798.67	7285.87	0.178	208,987.00
RES	19,152	1886.15	6564.34	0.2	193,152.80
DIVER	19,152	0.599	0.49	0	1
Sentiment	19,152	0.222	0.416	0	1
FUND	19,152	2.954	4.606	0	39.246
INSTVISIT	19,152	23.526	70.749	0	1860
FIRST	19,152	32.669	14.788	0.29	89.99
SOE	19,152	0.416	0.493	0	1
Liab	19,152	46.707	133.127	0.906	17,834.55
Current	19,152	2.149	2.627	0.006	78.41
EBITDA	19,152	0.228	0.485	−9.071	20.704
BPS	19,152	4.45	3.876	−13.964	157.226
EPS	19,152	0.306	1.028	−16.46	49.93
Trade	19,152	93.855	32.088	46.49	167.672
Inno	19,152	295.881	1317.11	0	49,753.24
ROA	19,152	2.971	15.756	−911.692	1221.11

3.2. Methodology

The first set of tests was related to Hypothesis 1: in a high-sentiment market environment, the earnings quality is worse than that under regular market conditions. The dummy variable "Sentiment" indicates the years in which the market has high investment sentiment, and we expected this dummy variable to be positive. If a high-sentiment market increases the benefit of disclosure, managers will choose to disclose information. If the market is regular and negative information is believed to be able to negatively affect the value of the firm, many managers choose to hide their bad news. Equation (6) below tests the causal relationship between market sentiment and earnings quality. The coefficient of the variable "Sentiment" was expected to have a positive significant coefficient, indicating that when market investment sentiment is high, the residual of the accrual regression has a larger absolute value and the firm's earnings quality is lower.

$$Abresidual_{i,t} = \beta_0 + \beta_1 Sentiment_{i,t} + \beta_2 Laib_{i,t} + \beta_3 Current_{i,t} + \beta_4 EBITDA_{,t} + \beta_5 BPS_{i,t} + \beta_6 EPS_{i,t} + \varepsilon_{i,t} \quad (7)$$

The second set of tests was related to Hypothesis 2 regarding the effectiveness of risk management instruments and lower corporate governance firm characteristics. Mutual fund shareholding and the number of firm visits were the variables of interest related to efficient corporate governance, and being an SOE and having the largest shareholding

position were the negative firm-level characteristics examined in the tests. The diversification level of shareholders was used as an indicator of efficient corporate governance. Equations (8)–(11) show these relationships using logit regression:

$$DIVER_{i,t} = \beta_0 + \beta_1 FUND_{i,t} + \beta_2 Laib_{i,t} + \beta_3 Current_{i,t} + \beta_4 EBITDA_{,t} + \beta_5 BPS_{i,t} + \beta_6 EPS_{i,t} + \varepsilon_{i,t} \quad (8)$$

$$DIVER_{i,t} = \beta_0 + \beta_1 INSTVISIT_{i,t} + \beta_2 Laib_{i,t} + \beta_3 Current_{i,t} + \beta_4 EBITDA_{,t} + \beta_5 BPS_{i,t} + \beta_6 EPS_{i,t} + \varepsilon_{i,t} \quad (9)$$

$$DIVER_{i,t} = \beta_0 + \beta_1 SOE_{i,t} + \beta_2 Laib_{i,t} + \beta_3 Current_{i,t} + \beta_4 EBITDA_{,t} + \beta_5 BPS_{i,t} + \beta_6 EPS_{i,t} + \varepsilon_{i,t} \quad (10)$$

$$DIVER_{i,t} = \beta_0 + \beta_1 FIRST_{i,t} + \beta_2 Laib_{i,t} + \beta_3 Current_{i,t} + \beta_4 EBITDA_{,t} + \beta_5 BPS_{i,t} + \beta_6 EPS_{i,t} + \varepsilon_{i,t} \quad (11)$$

The third set of tests was conducted to confirm Hypothesis 3. This set of tests was conducted to show that the corporate governance instruments "FUND" and "INSTVISIT" could effectively reduce the negative impact on earnings quality from "SOE" and "First". These tests adopted interaction terms between the instruments and the negative characteristics, and it was expected that the interaction terms could significantly reduce the absolute residual of earnings quality. Equations (12)–(15) show such a relationship:

$$Abresidual_{i,t} = \beta_0 + \beta_1 SOE_{i,t} + \beta_2 Laib_{i,t} + \beta_3 Current_{i,t} + \beta_4 EBITDA_{,t} + \beta_5 BPS_{i,t} + \beta_6 EPS_{i,t} + \varepsilon_{i,t} \quad (12)$$

$$\begin{aligned} Abresidual_{i,t} = \; & \beta_0 + \beta_1 FUND_{i,t} + \beta_2 SOE_{i,t} + \beta_3 Laib_{i,t} + \beta_4 Current_{i,t} + \beta_5 EBITDA_{,t} + \beta_6 BPS_{i,t} + \beta_7 EPS_{i,t} \\ & + \beta_8 [FUND_{i,t} \times SOE_{i,t}] + \varepsilon_{i,t} \end{aligned} \quad (13)$$

$$\begin{aligned} Abresidual_{i,t} = \; & \beta_0 + \beta_1 First_{i,t} + \beta_3 Laib_{i,t} + \beta_3 Laib_{i,t} + \beta_4 Laib_{i,t} + \beta_5 Current_{i,t} + \beta_6 EBITDA_{,t} + \beta_7 BPS_{i,t} \\ & + \beta_8 EPS_{i,t} + \varepsilon_{i,t} \end{aligned} \quad (14)$$

$$\begin{aligned} Abresidual_{i,t} = \; & \beta_0 + \beta_1 INSTVISIT_{i,t} + \beta_2 First_{i,t} + \beta_3 Laib_{i,t} + \beta_4 Current_{i,t} + \beta_5 EBITDA_{,t} + \beta_6 BPS_{i,t} \\ & + \beta_7 EPS_{i,t} + \beta_8 [INSTVISIT_{i,t} \times First_{i,t}] + \varepsilon_{i,t} \end{aligned} \quad (15)$$

As we classified market sentiment based on the CSAD regression beta values and the squared term of market returns, two years were classified as having high investment sentiment, and the rest were classified as regular years. We repeated the analysis using Equations (12)–(15) above under heterogeneous market conditions to demonstrate that changes in the two corporate governance instruments "FUND" and "INSTVISIT" have no effect in high-sentiment market periods.

To address the concern regarding heterogeneity and to demonstrate the robustness of the results, we changed the measure of earnings quality in Equation (16). The absolute value of Equation (16) was used as the measure of earnings quality, and similar to the original case, a higher absolute value indicates lower earnings quality and less efficient corporate governance.

$$Accruals_{i,t} = \beta_0 + \beta_1 \left[\Delta Sales_{i,t} - \Delta AR_{i,t} \right] + \beta_2 PPE_{i,t} + \beta_3 ROA_{i,t} + \varepsilon_{i,t} \quad (16)$$

We repeated the analysis using Equations (12)–(15) in both the full sample and the split sample, expecting similar results.

4. Results

4.1. Earnings Quality as an Indicator of Corporate Governance in High-Sentiment Environments

The results of market sentiment effects on corporate governance are shown in Table 4. Regardless of whether control variables were considered or two-way controls were imposed, the coefficients of "sentiment" are significantly positive. This finding indicates that during high-sentiment market periods, earnings quality is lower than during regular periods. The results are in line with the initial expectation that managers have a stronger incentive to take risks or even manipulate performance to attract investors to increase share prices. A higher return of the firm's share would benefit shareholders but also increase managers' reward. These results support Hypothesis 1.

Table 4. Market sentiment and earnings quality.

	Dependent Variable		
	Abresidual		
	−1	**−2**	**−3**
Sentiment	683.548 ***	451.819 **	495.298 **
	−209.174	−221.823	−208
Liab		1.233 ***	0.832 **
		−0.394	−0.372
Current		−137.908 ***	−99.188 ***
		−21.094	−19.993
BPS		252.203 ***	260.746 ***
		−20.65	−19.437
EPS		−193.888 **	−287.277 ***
		−82.105	−77.122
EBITDA		−367.196 ***	−80.171
		−123.513	−116.676
Constant	2960.764 ***	820.761 ***	2062.409 ***
	−318.672	−182.625	−329.103
IND CONTROL	Y	N	Y
YEAR CONTROL	Y	Y	Y
Observations	19,152	19,152	19,152
R^2	0.124	0.019	0.138
Adjusted R^2	0.123	0.018	0.137
Residual Std. Error	6823.043 (df = 19,127)	7220.414 (df = 19,138)	6770.212 (df = 19,122)
F Statistic	112.928 *** (df = 24; 19,127)	27.832 *** (df = 13; 19,138)	105.428 *** (df = 29; 19,122)

Note: ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively; standard errors are shown in parentheses.

4.2. Mutual Funds and Firm Visits as Effective Corporate Governance Instruments

Table 5 shows the results of the logit regression on the effectiveness of corporate governance instruments and the negative effects of several firm characteristics. The first two columns show that the higher the mutual fund shareholding and the greater the number of firm visits performed by institutional investors, the greater the likelihood that a firm will have more diversified large shareholders. Having diversified large shareholders could balance the board and avoid high agency costs. Columns (3) and (4) show that the variables "SOE" and "first" both reduce the likelihood of having a diversified board. Both coefficients are significantly negative. The results support Hypothesis 2.

Table 5. Corporate governance instruments.

	Dependent Variable			
	DIVER			
	−1	**−2**	**−3**	**−4**
FUND	0.035 ***			
	−0.004			
INSTVISIT		0.001 ***		
		−0.0002		
SOE			−0.221 ***	
			−0.032	
FIRST				−0.005 ***
				−0.001

Table 5. *Cont.*

	Dependent Variable			
	DIVER			
Liab	0.0003	0.0003	0.001	0.0004
	−0.0004	−0.0005	−0.001	−0.0005
Current	−0.003	−0.005	−0.008	−0.006
	−0.006	−0.006	−0.006	−0.006
BPS	−0.004	0.003	0.009	0.006
	−0.006	−0.006	−0.006	−0.006
EPS	−0.008	−0.003	−0.005	0.003
	−0.023	−0.024	−0.024	−0.024
EBITDA	0.019	0.037	0.042	0.052
	−0.036	−0.037	−0.037	−0.037
Constant	0.671 ***	0.746 ***	0.866 ***	0.950 ***
	−0.104	−0.105	−0.108	−0.114
IND CONTROL	Y	Y	Y	Y
YEAR CONTROL	Y	Y	Y	Y
Observations	19,152	19,152	19,152	19,152

Note: ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively; standard errors are shown in parentheses.

Table 6 shows the results for the effects of corporate governance instruments. In both columns (2) and (4), the interaction effect of the instruments is negative and significant. This finding indicates that "FUND" can effectively lower the negative effect of "SOE", and "INSTVISIT" has a similar effect on the variable "First". These results show that both "FUND" and "INSTVISIT" are effective corporate governance instruments in the full sample and support Hypothesis 3.

Table 6. The effects of power and monitoring on earnings quality.

	Dependent Variable			
	Abresidual			
	−1	**−2**	**−3**	**−4**
FUND		27.364 **		
		−13.31		
SOE	716.516 ***	879.562 ***		
	−105.863	−124.39		
INSTVISIT				7.483 ***
				−1.631
FIRST			46.523 ***	50.566 ***
			−3.468	−3.65
Liab	0.798 **	0.805 **	0.738 **	0.744 **
	−0.371	−0.371	−0.37	−0.37
Current	−87.280 ***	−85.547 ***	−87.335 ***	−85.032 ***
	−20.047	−20.066	−19.92	−19.91

Table 6. *Cont.*

	Dependent Variable			
	Abresidual			
BPS	244.156 ***	244.801 ***	237.917 ***	234.339 ***
	−19.568	−19.794	−19.421	−19.42
EPS	−261.630 ***	−263.712 ***	−293.592 ***	−306.407 ***
	−77.125	−77.184	−76.765	−76.805
EBITDA	−68.153	−83.976	−145.205	−171.238
	−116.553	−116.852	−116.235	−116.259
FUND×OE		−55.857 **		
		−23.102		
INSTVISIT*FIRST				−0.148 ***
				−0.051
Constant	1615.236 ***	1514.623 ***	90.474	−64.622
	−335.292	−337.9	−359.045	−361.723
IND CONTROL	Y	Y	Y	Y
YEAR CONTROL	Y	Y	Y	Y
Observations	19,152	19,152	19,152	19,152
R^2	0.14	0.14	0.146	0.147
Adjusted R^2	0.139	0.139	0.145	0.146
Residual Std. Error	6762.293 (df = 19,121)	6761.463 (df = 19,119)	6738.753 (df = 19,121)	6733.933 (df = 19,119)
F Statistic	103.680 *** (df = 30; 19,121)	97.433 *** (df = 32; 19,119)	108.866 *** (df = 30; 19,121)	103.126 *** (df = 32; 19,119)

Note: ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively; standard errors are shown in parentheses.

4.3. Validity of the Effectiveness of Corporate Governance Instruments in Heterogeneous Markets

The heterogenous effects of the corporate governance instruments are shown in Table 7. In a market with regular sentiment, both "FUND" and "INSTVISIT" are effective corporate governance instruments that significantly lower the negative effects of "SOE" and "First" and increase corporate governance (a lower absolute residual, the dependent variable, means higher corporate governance). In contrast, in a market with high sentiment, both instruments become ineffective. The interaction terms in columns (1) and (2) are both insignificant. These results support Hypothesis 4.

ESG is a recently well-discussed topic. It is related to corporate governance. The ESG focuses on environmental protection, social obligation, and corporate governance. Most firms invest in innovation in order to control pollution, and green investment shows their environmental protection and fulfills social obligations. We use the innovation expenditure as the indicator of green finance and investment. In Table 8, the results show that when market sentiment is high, high profitability does not increase innovative investment. When market sentiment is normal, the higher ROA increases innovation investments, indicating higher sustainability and environmental protection. Such a finding is in line with other findings in the literature about the CEO's market status and expectations [63].

Table 7. Heterogeneous effects of market sentiment and monitoring.

	Dependent Variable			
	Abresidual			
	High Sentiment		**Regular Sentiment**	
	−1	**−2**	**−3**	**−4**
FUND	22.583		27.167 *	
	−29.9		−14.838	
SOE	695.944 **		888.986 ***	
	−278.038		−138.8	
INSTVISIT		9.882 ***		6.615 ***
		−3.365		−1.868
FIRST		54.302 ***		48.958 ***
		−8.397		−4.035
Liab	32.873 ***	33.035 ***	0.647 *	0.584
	−5.696	−5.638	−0.364	−0.363
Current	−4.138	4.291	−77.259 ***	−77.633 ***
	−58.54	−58.191	−21.387	−21.223
BPS	335.711 ***	326.573 ***	225.038 ***	213.919 ***
	−44.025	−42.964	−22.19	−21.799
EPS	−668.576 ***	−741.798 ***	−167.586 **	−203.101 **
	−182.309	−181.331	−84.828	−84.418
EBITDA	542.301 *	399.317	−137.612	−213.799 *
	−323.466	−321.29	−124.595	−124.002
FUND*SOE	−47.175		−56.714 **	
	−54.085		−25.449	
INSTVISIT*FIRST		−0.178		−0.136 **
		−0.108		−0.058
Constant	−511.747	−2260.952 ***	1666.095 ***	163.255
	−770.627	−821.429	−366.805	−393.384
IND CONTROL	Y	Y	Y	Y
YEAR CONTROL	Y	Y	Y	Y
Observations	4256	4256	14,896	14,896
R^2	0.158	0.167	0.137	0.144
Adjusted R^2	0.153	0.162	0.136	0.142
Residual Std. Error	7250.476 (df = 4230)	7212.661 (df = 4230)	6608.360 (df = 14,865)	6583.224 (df = 14,865)
F Statistic	31.774 *** (df = 25; 4230)	33.886 *** (df = 25; 4230)	78.827 *** (df = 30; 14,865)	83.221 *** (df = 30; 14,865)

Note: ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively; standard errors are shown in parentheses.

Table 8. Profit effects on innovation in different market sentiments.

	Dependent Variable			
	Inno			
	High Sentiment		**Regular Sentiment**	
	−1	**−2**	**−3**	**−4**
ROA	1.298	1.26	5.571 ***	5.231 ***
	−1.413	−1.405	−1.173	−1.167
FUND	10.464 **		7.837 ***	
	−4.986		−2.3	
INSTVISIT		2.020 ***		1.528 ***
		−0.283		−0.147
Liab	5.442 ***	5.566 ***	0.402 ***	0.388 ***
	−1.092	−1.085	−0.091	−0.09
Current	−11.518	−10.332	−19.208 ***	−19.271 ***
	−11.399	−11.332	−3.947	−3.933
BPS	70.536 ***	72.698 ***	66.771 ***	67.431 ***
	−8.36	−8.24	−4.089	−4.037
EPS	−84.680 **	−95.212 ***	−90.072 ***	−93.135 ***
	−35.084	−34.898	−16.465	−16.415
EBITDA	12.186	8.509	−76.327 ***	−76.831 ***
	−78.294	−77.697	−26.565	−26.479
Constant	144.056	152.966	150.492 **	173.272 ***
	−146.146	−145.308	−65.649	−65.295
IND CONTROL	Y	Y	Y	Y
YEAR CONTROL	Y	Y	Y	Y
Observations	4256	4256	14,896	14,896
R^2	0.105	0.115	0.095	0.101
Adjusted R^2	0.1	0.11	0.093	0.099
Residual Std. Error	1392.483 (df = 4231)	1384.898 (df = 4231)	1210.014 (df = 14,866)	1206.121 (df = 14,866)
F Statistic	20.658 *** (df = 24; 4231)	22.822 *** (df = 24; 4231)	53.652 *** (df = 29; 14,866)	57.314 *** (df = 29; 14,866)

Note: ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

4.4. Endogeneity and Robustness Checks

In Table 9, we changed the market sentiment measure using the China Security Index 300 (CSI 300) yearly trading volume adjusted by the yearly CSI 300 volatility. The higher trading volume per unit volatility would show higher market trading willingness. We compare the results of the high and regular market sentiment using the baseline method. The past regular sentiment years have an average of 84 units per volatility, but the high sentiment years have an average of 128 units per volatility. Such results show similar market sentiment judgement. We will use the new measure to test how it affects earning quality. The results are presented in Table 9. In all cases, the new measure "Trade" has similar results as our baseline model with the old measure, confirming the robustness of the old finding.

Table 9. Remeasure of sentiment by market trading volume adjusted by market volatility.

	Dependent Variable		
	Abresidual		
	−1	**−2**	**−3**
Trade	16.097 ***	10.857 ***	11.726 ***
	−3.66	−3.886	−3.644
Liab		1.233 ***	0.832 **
		−0.394	−0.372
Current		−137.908 ***	−99.188 ***
		−21.094	−19.993
BPS		252.203 ***	260.746 ***
		−20.65	−19.437
EPS		−193.888 **	−287.277 ***
		−82.105	−77.122
EBITDA		−367.196 ***	−80.171
		−123.513	−116.676
Constant	2212.398 ***	316.02	1517.261 ***
	−407.549	−324.911	−414.381
IND CONTROL	Y	N	Y
YEAR CONTROL	Y	Y	Y
Observations	19,152	19,152	19,152
R^2	0.124	0.019	0.138
Adjusted R^2	0.123	0.018	0.137
Residual Std. Error	6823.043 (df = 19,127)	7220.414 (df = 19,138)	6770.212 (df = 19,122)
F Statistic	112.928 *** (df = 24; 19,127)	27.832 *** (df = 13; 19,138)	105.428 *** (df = 29; 19,122)

Note: ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

The results after replacing the measurement of earnings quality in Equation (15) are shown in Tables 10 and 11. In Table 8, "SOE" and "First" still positively increase the absolute residual, indicating worse earnings quality. The interaction terms in columns (2) and (4) show that both "FUND" and "INSTVISIT" reduce the incremental effects of "SOE" and "First". These results are similar to those of the original tests.

Table 10. Robustness checks on the effects of corporate governance instruments and negative firm characteristics.

	Dependent Variable			
	RES			
	−1	**−2**	**−3**	**−4**
FUND		9.636		
		−12.02		
SOE	663.763 ***	796.888 ***		
	−95.594	−112.326		
INSTVISIT				2.104
				−1.474
FIRST			42.477 ***	43.088 ***
			−3.132	−3.298
Liab	0.760 **	0.765 **	0.705 **	0.710 **
	−0.335	−0.335	−0.334	−0.334
Current	−53.750 ***	−53.289 ***	−53.960 ***	−52.942 ***
	−18.102	−18.12	−17.987	−17.987
BPS	216.827 ***	220.729 ***	211.352 ***	210.123 ***
	−17.67	−17.874	−17.536	−17.545
EPS	−209.162 ***	−206.968 ***	−238.687 ***	−248.202 ***
	−69.643	−69.698	−69.315	−69.388
EBITDA	−98.094	−102.16	−168.605	−181.794 *
	−105.246	−105.519	−104.954	−105.033
FUND*SOE		−48.286 **		
		−20.862		
INSTVISIT*FIRST				−0.007
				−0.046
Constant	1390.224 ***	1339.468 ***	4.028	−15.892
	−302.766	−305.129	−324.201	−326.793
IND CONTROL	Y	Y	Y	Y
YEAR CONTROL	Y	Y	Y	Y
Observations	19,152	19,152	19,152	19,152
R^2	0.136	0.136	0.142	0.143
Adjusted R^2	0.135	0.135	0.141	0.141
Residual Std. Error	6106.285 (df = 19,121)	6105.711 (df = 19,119)	6084.773 (df = 19,121)	6083.672 (df = 19,119)
F Statistic	100.364 *** (df = 30; 19,121)	94.284 *** (df = 32; 19,119)	105.589 *** (df = 30; 19,121)	99.305 *** (df = 32; 19,119)

Note: ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively; standard errors are shown in parentheses.

Table 11. Robustness checks on the effectiveness of corporate governance instruments under different market sentiments.

	Dependent Variable			
	RES			
	High Sentiment		**Regular Sentiment**	
	−1	**−2**	**−3**	**−4**
FUND	−1.246		10.967	
	−27.101		−13.385	
SOE	704.136 ***		785.725 ***	
	−252.016		−125.205	
INSTVISIT		2.225		2.094
		−3.051		−1.685
FIRST		48.407 ***		41.209 ***
		−7.614		−3.642
Liab	27.589 ***	27.635 ***	0.629 *	0.574 *
	−5.163	−5.113	−0.329	−0.328
Current	2.87	10.355	−44.221 **	−44.627 **
	−53.061	−52.765	−19.292	−19.154
BPS	302.058 ***	291.195 ***	203.085 ***	192.248 ***
	−39.904	−38.958	−20.017	−19.674
EPS	−537.205 ***	−612.461 ***	−131.916 *	−165.474 **
	−165.247	−164.425	−76.519	−76.187
EBITDA	451.476	306.14	−150.604	−218.632 *
	−293.193	−291.334	−112.391	−111.911
FUND*SOE	−44.132		−48.043 **	
	−49.023		−22.957	
INSTVISIT*FIRST		0.029		−0.019
		−0.098		−0.053
Constant	458.232	−1072.01	1257.408 ***	−16.148
	−698.504	−744.842	−330.878	−355.026
IND CONTROL	Y	Y	Y	Y
YEAR CONTROL	Y	Y	Y	Y
Observations	4256	4256	14,896	14,896
R^2	0.153	0.161	0.133	0.139
Adjusted R^2	0.148	0.156	0.132	0.137
Residual Std. Error	6571.902 (df = 4230)	6540.179 (df = 4230)	5961.085 (df = 14,865)	5941.311 (df = 14,865)
F Statistic	30.460 *** (df = 25; 4230)	32.401 *** (df = 25; 4230)	76.277 *** (df = 30; 14,865)	80.090 *** (df = 30; 14,865)

Note: ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively; standard errors are shown in parentheses.

In Table 9, when markets with high sentiment and regular sentiment are split, both interaction terms in columns (3) and (4) are still negative, but the effect of "INSTVISIT" is not significant. These results show that mutual fund shareholding may be a stronger effective corporate governance instrument during market periods with regular sentiment. When columns (1) and (2) are checked for robustness, both interaction terms are insignificant, indicating the ineffectiveness of the corporate governance instruments. The results are similar to our original results, except for the number of firm visits during market periods with regular sentiment.

4.5. Summary of Findings and Discussion

The summary of findings are shown in Table 12.

Table 12. Summary of Findings.

Hypotheses	Validation
H1. Higher market sentiment leads to lower firm earnings quality.	Supported
H2a. Higher mutual fund shareholding improves shareholder diversification, which signals greater corporate governance.	Supported
H2b. A greater number of firm visits by mutual firm analysts improves shareholder diversification, which signals greater corporate governance.	Supported
H3a. Higher mutual fund shareholding efficiently reduces the negative agency effect for SOEs.	Supported
H3b. A greater number of firm visits by mutual firm analysts efficiently reduces the negative dominant shareholder effect.	Partially supported
H4. Mutual fund shareholding and firm visits are effective corporate governance instruments during market periods with regular sentiment but become ineffective during high-sentiment market periods.	Supported

The results indicate that managers tend to take higher-risk projects or window-dress earnings during high-sentiment market periods, which causes a decrease in earnings quality. Environments with different market sentiments provide different returns for good news about a firm. Mutual fund shareholding is a stronger corporate governance mechanism since the number of firm visits is no longer significant in our alternative measurement of the dependent variable. Some potential reasons could be that mutual fund managers visit many firms but do not invest in all the firms. When mutual fund analysts plan to revisit a firm after investing, they only revisit those firms they feel they may trade in the near future. Visits by institutional investors can even increase a firm's analyst coverage, but the results could be mixed.

Institutional shareholder monitoring and analyst coverage cannot effectively regulate managers' behavior during market periods with high sentiment. Thus, the question becomes the following: Do all management instruments lose their effectiveness when the market environment changes? The key is to understand why managers feel the incentive to take excessive risks. Many firms use incentive contracts to align managers' interests with those of shareholders and require managers to meet performance requirements. Such requirements may encourage managers to take excessive risks, operate the business in a manner that is not sustainable, or even behave unethically to increase share prices. If the requirements are not absolute but benchmarked or conditioned on past firm performance, reliance on the overall industry performance would be a better solution. An incentive contract could also consider some of the famous clauses from venture capital firms, such as the high-water mark and clawback provisions, to ensure that managers do not focus on only temporary performance and neglect longer-term growth.

Our results are in line with other studies showing that corporate governance regulation and manager incentive contracts lose their effectiveness under some interesting scenarios. For example, when manager performance is measured as return on equity (ROE), managers have the incentive to exercise share repurchase to reduce the equity size and increase the

ROE [64]. When managers hold larger shares, there are more repurchases, which could increase the share price, but lesser dividend payouts, which could lead to a decrease in stock price [65]. Our findings are related to the hot topic on ESG in recent years. Investors should realize the value of ethical behaviors on the firm and management levels. A good firm with high corporate governance is evaluated as having high ESG, and this could increase the firm's market value [66]. If managers realize that there is financial reward if they maintain high ethical standards, then it would reduce the likelihood of taking excessive risk in high-sentiment market environments. Unfortunately, many recent studies indicated mixed results on the ESG–performance connections in different market environments, but this is a direction worth further exploring [67]. Policies and investor education may help improve investors' understanding of the importance and value of ethical behavior and corporate governance, which would be reflected by the firm's value.

Other commonly applied corporate governance mechanisms could be less affected by the market sentiment. Most third parties involved in monitoring, including auditing and independent board member supervision, may be less impacted by the market conditions [68]. Also, as mentioned above, the different levels of regulatory supervision in different markets would also have different market sentiment impacts. If the jurisdiction has strict fines and penalties for potential agency misconduct, it would significantly lower the agency costs.

5. Conclusions and Future Research

This study used the CSAD model to identify market sentiment and showed that firms in the Chinese market have lower earnings quality, which indicates worse corporate governance, during high-sentiment market periods than during regular periods. Mutual fund shareholding and the number of firm visits by mutual fund analysts were found to be effective monitoring corporate governance instruments that increase the diversification of shareholders. Furthermore, both instruments reduce the negative impact on earnings quality from firm characteristics such as being a state-owned enterprise (SOE) and the largest shareholder having dominant control over the firm. When the effectiveness of mutual fund shareholding and analyst firm visits in markets with high or regular sentiment was tested, the findings were heterogeneous. In high-sentiment markets, both instruments become ineffective, but they are significantly effective in a market with regular sentiment. These results reveal a particular agency problem in a high-sentiment market environment.

The current research addresses this agency problem but can only suggest potential solutions. Some clauses from venture capital firms could be useful for alleviating agency and delegation problems under extreme market conditions. An empirical test could provide more meaningful insights. It may be difficult to obtain detailed data on manager compensation contracts; performance during the early years of a stock option vesting program would be a good substitution for high-water mark and clawback clauses. However, caution should be taken for years until the end of the vesting since a manager's incentives could change over time, which could have a significant impact that is similar to the stock option problem.

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