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# Mergers and acquisitions comment letters and analysts' earnings forecasts: Evidence from China

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ABSTRACT

In this study we examine the effect of the mergers and acquisitions (M&A) comment letters on the analysts' earnings forecasts in China. Using the M&A data of listed companies between 2014 and 2018 as the main sample, we show that the M&A comment letters can reduce analysts' earnings forecast optimism. Additionally, the impact of the M&A comment letters on analysts' earnings forecast optimism is more pronounced in firms with higher market sentiment and higher conflicts of interest. Finally, the textual characteristics of the M&A comment letters and the classification of questions in the M&A comment letters also influence analysts' earnings forecast optimism. Our research broadens the economic consequences of the M&A comment letters and provides a richer theoretical perspective and empirical evidence to understand the effectiveness of non-penalty regulation.

## 1. Introduction

Analysts are important information intermediaries in capital market (Lim, 2001). The analyst usually tracks companies that have mergers and acquisitions (M&A) (Chaney et al., 1999; Lin and Yang, 2006). Analysts analyze and process information during M&A and updates the forecast information accordingly. Reliable information provided by regulators can constitute a crucial information source for analysts (Hirst et al., 2004). Hence, the establishment of a sound regulatory mechanism for information disclosure during mergers and acquisitions is essential for analysts and capital market.

Reviewing and commenting on M&A filings is often the first step of regulators' enforcement. In the capital market, regulators issue comment letters on individual firms' filings related to M&A, comment on accounting and disclosure noncompliance, demand responses from firms, and sometimes expect revised filings. Such communications between regulators and firms facilitate more deal-level

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transparency.

While prior research has focused on economic consequences of the mergers and acquisitions comment letters on mergers and acquisitions outcomes (Chen et al., 2022; Liu et al., 2024; Yang, 2023; Han et al., 2023) and accounting quality (Johnson et al., 2023). However, little is known about the role of the mergers and acquisitions comment letters in shaping analysts' earnings forecast. Our study aims to fill this gap by examining whether and how the mergers and acquisitions (M&A) comment letters can affect analysts' earnings forecast optimism.

The analyst usually tracks companies that have mergers and acquisitions and increase analysts' earnings forecast optimism bias (Chaney et al., 1999; Lin and Yang, 2006). The information contained in the mergers and acquisitions (M&A) comment letters can alleviate bias in analyst forecasts caused by market sentiment and conflicts of interest. But analysts may have obtained the information contained in the mergers and acquisitions (M&A) comment letters through additional information channels. Analysts can make site visits to firms (Cheng et al., 2016) and have industry knowledge (Kadan et al., 2012). Whether and how the mergers and acquisitions (M&A) comment letters influences analysts' earnings forecast optimism needs empirical test.

In this paper, we use a Chinese setting to assess the effect of the mergers and acquisitions (M&A) comment letters on analysts' earnings forecast. First, we explore whether and how the mergers and acquisitions (M&A) comment letters influences analysts' earnings forecast optimism. The results show that the mergers and acquisitions (M&A) comment letters can significantly reduce analysts' earnings forecast optimism. Our results hold solid after a battery of robustness checks. Firstly, we utilize multiple strategies to mitigate endogenous issues. Our main findings remain causal after we employing PSM method. Secondly, so as to eliminate confounding effects of other policies on analysts' optimism bias, we adopt a placebo test by changing the execution time of the regulatory system for mergers and acquisitions (M&A) comment letters. Thirdly, we introduce alternative measures of the explained variables into the baseline regression to enhance the solidity of our main results.

Additionally, the inhibition effect of the mergers and acquisitions (M&A) comment letters on analysts' earnings forecast optimism only exists in firms with higher market sentiment. The analyst receives more attention from the market because of the higher market sentiment in the M&A. To maintain reputation and reduce regulatory risks, the analyst takes a more cautious and conservative attitude toward the profitability of companies that receive the comment letter. This helps to reduce analysts' optimism due to market sentiment. Furthermore, the inhibition effect of the mergers and acquisitions (M&A) comment letters on analysts' earnings forecast optimism only exists in firms with higher conflicts of interest. The more serious the conflict of interest, the more stringent the supervision over it. Analysts maintain their independence to reduce regulatory risks. Finally, the textual characteristics of the mergers and acquisitions (M&A) comment letters and the classification of questions in the mergers and acquisitions (M&A) comment letters also influence analysts' forecast optimism. When the mergers and acquisitions (M&A) comment letters requires the intermediary agency to issue professional verification opinions, has many questions, has been asked many times, and the company has delayed the reply letter, analysts' optimism can be reduced. From the type of questions, the mergers and acquisitions (M&A) comment letters can reduce analysts' optimism when the questions involve related transactions, M&A pricing, performance commitment, and risk status.

Our study contributes to the existing literature in several aspects. First, we extend the literature on the economic consequences of the mergers and acquisitions (M&A) comment letters by identifying a new benefit associated with the mergers and acquisitions (M&A) comment letters. Prior studies primarily focused on the effect of periodic fillings' comment letters (Bens et al., 2016; Dechow et al., 2016; Bozanic et al., 2017; Heese et al., 2017; Johnston and Petacchi, 2017; Brown et al., 2018; Ryans, 2020; Hu et al., 2022; Hong and Yao, 2024). Few studies examine the economic consequences of mergers and acquisitions (M&A) comment letters (Chen et al., 2022; Johnson et al., 2023; Han et al., 2023;Yang, 2023; Liu et al., 2024). Our study highlights that the mergers and acquisitions (M&A) comment letters reduce analysts' optimism during M&A. Also, our study suggests that the mergers and acquisitions (M&A) comment letters can reduce market sentiment as well as conflicts of interest during M&A to reduce analysts' optimism.

Second, we add to the literature exploring the multitude of factors that impact the analysts' optimism. Prior research has explored how market sentiment and conflicts of interest (Baker and Wurgler, 2006; Mehran and Stulz, 2007) into the analysts' optimism. To our knowledge, we demonstrate the role of the M&A comment letters, which enriches the analysts' forecast literature from both aspects of market sentiment and conflicts of interest.

Finally, our findings provide new insights into the consequences of the mergers and acquisitions (M&A) comment letters, particularly in the context of weaker information environment. Piror studies on the mergers and acquisitions (M&A) comment letters mainly focus on the deal outcomesin emerging markets (Chen et al., 2022; Han et al., 2023; Yang, 2023). The M&A comment letters mechanism represents an innovative approach to supervision, reshaping the traditional regulatory landscape by evolving from unilateral allegations by regulators to a bidirectional dialogue between regulatory bodies and public companies. Our study investigates whether and how the M&A comment letters, a non-penalty supervision, impacts the analysts' optimism, particularly in the context of weaker information environment like China.

## 2. Institutional background

China's merger and acquisition (M&A) comment letter system operates by the China Securities Regulatory Commission (CSRC). This system is an integral part of the regulatory mechanisms designed to oversee M& A activities in the country. The CSRC, as the principal regulatory body for securities and futures markets in China, has implemented the M&A comment letter system to enhance transparency, investor protection, and market integrity. When a listed company in China is involved in a merger or acquisition transaction, the CSRC issues comment letters seeking additional information and clarification regarding various aspects of the deal. The comment letter serves as a tool for the CSRC to scrutinize the M&A transaction, ensuring compliance with relevant regulations and safeguarding the interests of shareholders and the broader market. Through this system, the CSRC aims to prevent irregularities,

market manipulation, and insider trading, thereby contributing to the stability and fairness of the Chinese capital market.

To further implement the arrangements of The State Council and the CSRC, the stock exchange gradually began to change the front-line supervision mode, and the comment letter system became the mainstream mode. The Shenzhen and Shanghai stock exchanges issue the mergers and acquisitions (M&A) comment letters. There are three types of Chinese comment letters: annual report letters (similar to 10-K comment letters), restructuring letters (described below), and ad-hoc filing letters (including filings for small M&A that are not considered restructuring). In China, stock exchanges appear to sacrifice depth for breadth, all mergers and acquisitions are reviewed. Once the M&A comment letters is sent, all information will be posted on the exchange website.

In China, the CSRC and the two main Chinese stock exchanges, namely, the Shanghai Stock Exchange (SSE) and the Shenzhen Stock Exchange (SZSE), adopted the comment letter mechanism in 2013, but it was not until the end of 2014 that both the CLs and firms' responses were publicly disclosed. Comment letters are published on the stock exchanges' websites at the same time as they are issued to firms.

The merger and acquisition (M&A) comment letter systems in China and the United States exhibit notable differences in terms of their regulatory frameworks and procedural aspects. In the United States, the Securities and Exchange Commission (SEC) plays a central role in overseeing M&A activities. The SEC reviews disclosure documents filed by companies engaged in M&A transactions. Rather than issuing specific comment letters as a routine part of the process, the SEC may provide comments on the disclosure filings, seeking clarification or additional information. This comment process is a key aspect of the SEC's review and allows for a more interactive and iterative exchange between the regulator and the companies involved.

There are three key differences between the CSRC and the SEC. (1) Regulatory Authority: China's CSRC takes a proactive role by issuing formal comment letters as part of the review process, while the U.S. SEC typically engages in a comment-based review of disclosure filings. (2) Process Nature: China's system involves a structured issuance of comment letters seeking specific information, while the U.S. system involves a more dynamic and iterative exchange of comments between the SEC and the companies. (3) Disclosure Focus: The focus of inquiries may differ, with China's CSRC emphasizing compliance with regulations and protection of shareholder interests, while the U.S. SEC places a strong emphasis on the completeness and accuracy of disclosure documents. In China, the disclosure of the M&A comment letters is mandatory and more timely than in the US. Overall, the M&A comment letter system in China reflects the commitment of regulatory authorities to maintain a well-regulated and transparent environment for M&A activities, fostering investor confidence and market integrity.

## 3. Literature review and hypotheses development

The analyst usually tracks companies that have mergers and acquisitions and increase analysts' earnings forecast optimism bias (Chaney et al., 1999; Lin and Yang, 2006). There are two types of explanations for analysts' earnings forecast optimism: strategic and non-strategic distortion motivation (Malmendier and Shanthikumar, 2014). Non-strategic motivation suggests that analysts have a cognitive bias in self-selection (O'brien, 1988). Once a company undergoes an M&A event, market sentiment rises, which ultimately leads analysts to issue more optimistic earnings forecasts. Strategic motives believe that analysts will issue optimistic forecasts for their motives. Among them, the most discussed and most concerned by regulators are analysts' motives for conflicts of interest.

Sibilkov et al. (2013) used research on M&A in the US. They found that investment banks acting as M&A consultants will prompt their analysts to follow the merger company in M&A and issue more optimistic investment rating reports and earnings forecasts (Tehranian et al., 2014).

From the perspective of non-strategic motives, M&A lead to optimistic market sentiment and, ultimately, more optimistic earnings forecasts issued by analysts. On the one hand, the M&A comment letter allows investors to obtain incremental information about mergers and acquisitions, forcing companies to disclose more content in the reply letter and the revision process of the restructuring plan, which is conducive to investors' understanding of the essence of mergers and acquisitions, thereby reducing investor sentiment. On the other hand, the mergers and acquisitions (M&A) comment letter is the result of professional judgments made by supervisory experts based on their rich professional knowledge and practical industry experience, which can accurately identify potential M&A risks. Analysts can see through the mergers and acquisitions (M&A) comment letter that the supervisory authorities have questioned specific transaction issues and more information disclosed by the company in the reply letter of the company. This ultimately alleviates bias in analyst forecasts caused by market sentiment.

From the perspective of strategic motives, the mergers and acquisitions (M&A) comment letter also reduces analyst conflicts of interest and ultimately reduces the optimistic bias of analysts' earnings forecasts. The disclosure of the M&A comment letter may attract local CSRC and local governments and increase the company's regulatory risks. If analysts still release optimistic earnings forecasts at this time, their reputation may face a significant risk of damage, thereby causing analysts to lose the trust of investors, which could be detrimental to their long-term career development. Meanwhile, from 2014 to 2018, approximately 88.23 % of the mergers and acquisitions (M&A) comment letters require brokers and other intermediaries to issue verification opinions. At this time, if analysts issue optimistic earnings forecasts, they may be subject to punishment. Therefore, the M&A comment letter significantly reduces the optimistic bias of analysts' earnings forecasts. We state our hypothesis as follows:

**H1**. The M&A comment letters are negatively associated with analysts' forecast optimism.

Investor sentiment is an important factor that affects analysts' optimism bias (Baker and Wurgler, 2006). The effect of M&A comment letters on reducing the optimistic deviation of analysts' earnings forecasts is affected by market sentiment. When investor sentiment is high, the announcement of M&A comment letters is more like "bad news" to investors. Analysts will hold a more cautious and conservative attitude toward companies' earnings based on the collection of public information and reputation pressure. We state

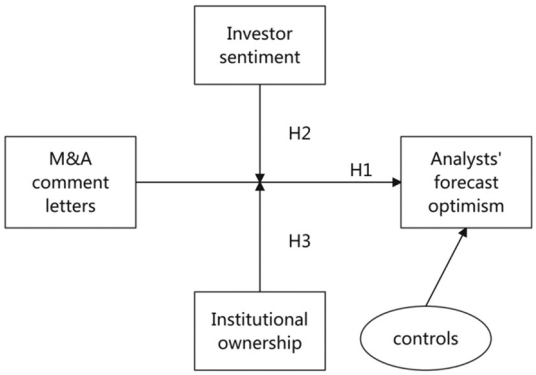


**Fig. 1.** The theoretical model.

**Table 1**
Sample Selection.

| | |
|---|---|
| M&As from Shanghai and Shenzhen Stock Exchanges | 7862 |
| Comment letters on M&As from Shanghai and Shenzhen Stock Exchanges | 1657 |
| Non-comment letters on M&As from Shanghai and Shenzhen Stock Exchanges | 6205 |
| Less: | |
| (1) observations in the financial and regulated industries | (115) |
| (2) observations with missing data | (554) |
| (3) Only the first M&A retain for companies that have multiple M&As in one year | (1809) |
| **Final sample** | **5384** |

our hypothesis as follows:

**H2.** The negative association between M&A comment letters and analysts' forecast optimism is more pronounced in the high investor sentiment group.

Mehran and Stulz (2007) believe that if analysts can directly benefit the customer they serve by publishing biased research reports, there is a conflict of interest. The "conflict of interest" faced by analysts is an important factor affecting analysts' optimism bias. For analysts, institutional investors are essential sources of "conflicts of interest." Institutional investors are the main customers and source of profits for analysts' brokerage business; therefore, analysts have the motive to issue more optimistic earnings forecast reports for firms with high institutional ownership. Nonetheless, institutional investors also have the right to vote in the "New Fortune" selection, so analysts have the motive to issue more optimistic earnings forecast reports for their career promotion to institutional investors' stocks. Moreover, M&A comment letters increase the high institutional ownership company's information transparency. Meanwhile, M&A comment letters increase analysts' reputation costs for high institutional ownership companies. We state our hypothesis as follows:

**H3.** : The negative association between M&A comment letters and analysts' forecast optimism is more pronounced when institutional ownership is higher.

Fig. 1 Summarized all the hypotheses we proposed above.

## 4. Research design

### *4.1. Sample selection*

Since China launched the exchange information disclosure through train system in 2013, and the exchange began to publicly disclose the comment letters in 2014, this paper selects listed companies that have undergone mergers and acquisitions from 2014 to 2018 as the main research object. Among them, the M&A comment function data from Shenzhen Stock Exchange, Shanghai Stock Exchange, Wind database and Juchao Information network were collected by hand, and other data came from CSMAR database and Wind database. The sample data obtained in this paper are screened according to the following rules: (1) The listed companies in the financial industry are excluded; (2) Samples with missing data of main study variables were eliminated; (3) In the case of multiple mergers and acquisitions of listed companies this year, only the earliest merger and acquisitions and reorganization events are retained. In the end, 5,384 M&A events were obtained, resulting in 10,768 event-year observations. Finally, we winsorize the variables at the 1 % and 99 % levels. The sample selection criteria are summarized in Table 1.

**Table 2**
Variable definitions.

| Variable | Definition |
|---|---|
| Optimism1 | (The signed difference between the consensus median forecast and the actual earnings)/ the closing price at the end of last year. |
| Optimism2 | (The signed difference between the consensus median forecast and the actual earnings/the last closing price before the annual report. |
| Inquiry | 1 for a firm receives a comment letter, and 0 otherwise. |
| Post | 1 if forecasts are made after the firm received SEC staff comment letters, and 0 otherwise. |
| Sentiment | The change in the average daily turnover rate of stocks in the years t and t-1. |
| Institution | Change in the shareholding ratio of institutional investors in year t and year t-1. |
| Size | Natural logarithm of total assets. |
| Lev | Total liabilities/total assets. |
| Roa | profits divided by total assets. |
| Indep | Percentage of independent directors on the board. |
| Top1 | Percentage of the company's largest shareholder. |
| Duality | 1 if the general manager of the company acts the chairman, 0 if not. |
| Weak | 1 for a firm has weak internal control, and 0 otherwise. |
| Big4 | 1 for a Big 4 audit firm, and 0 otherwise. |
| SOE | 1 for stated-owned-enterprises, and 0 otherwise. |
| Inter_gov | Questions or comments on to the firm's board of directors, including issues related to board composition, independence, and board's compensation |
| Exter_gov | Comments related to independence of intermediary institutions; media rumors to clarify and CSRC to initiate investigation or punishment |
| Accounting | A general request to clarify or provide more information about the firm's accounting treatment regarding a particular transaction or a series of transactions. This request is more about how a firm applies a given standard, not what accounting standard was used. |
| mRt | Comments and questions related to related party relations and changes of related party relations after merger and acquisition. |
| Price | Comments related to explaining the adopted pricing method and M&A pricing mechanism. Explaining the whole process from determining the value of the acquirer to the final price generated by the game between the acquirer and the target. |
| Rafa | Comments related to related to a firm's financing capital. |
| Commitment | Questions or comments regarding the terms of the post-M&A commitment to performance, including the basis of performance commitment, the possibility of implementation |
| Trade | Comments and questions related to the transaction in general. |
| Operation | Questions or comments related to a firm's method of accounting for revenues and material considerations in evaluating the quality and uncertainties surrounding their revenue-generating activity and related to the computation of earnings per share disclosures |
| Risk | Questions or comments related to a firm's litigation. |

### 4.2. Model specification

To test the impact of M&A comment letters on analysts' earnings forecast, we use the difference-in-differences model in Eq. (1):

$$\begin{aligned}\text{Optimism}_{i,t+1} = {} & \alpha_0 + \alpha_1 \text{Inquiry}_{i,t} + \alpha_2 \text{Post}_{i,t} + \alpha_3 \text{Inquiry}_{i,t}{}^{*} \text{Post}_{i,t} + \alpha_4 \text{Size}_{i,t} + \alpha_5 \text{Lev}_{i,t} + \alpha_6 \text{Roa}_{i,t} + \alpha_7 \text{Top1}_{i,t} + \alpha_8 \text{Indep}_{i,t} \\ & + \alpha_9 \text{Duality}_{i,t} + \alpha_{10}\, \text{Weak}_{i,t} + \alpha_{11} \text{Big4}_{i,t} + \alpha_{12} \text{SOE}_{i,t.} + \sum \text{Year} + \sum \text{Ind} + \varepsilon \end{aligned} \tag{1}$$

Among them, Optimism is the deviation of analysts' prediction optimism, and Inquiry is a dummy variable. When a listed company receives an inquiry on a certain merger and reorganization event in year t, 1 is selected, otherwise 0 is selected. Post is a time dummy variable. In the years after the company first receives the merger and reorganization comment letter, Post is 1, otherwise it is 0. At the same time we control industry and year fixed effects.

### 4.3. Variable measurement

(1) Analyst optimism.

To measure analyst optimism, we adopt a similar approach to Jackson (2005). We construct an index to measure analyst optimism, Optimismi,t. This indicator averages the difference between all analysts' forecast EPS (F_(i,t)) and true EPS (A_(i,t)) of a listed company for year t, and is smoothed by the closing price at the end of the previous year or the latest closing price before the publication of the annual report. Analysts tend to be more optimistic about earnings when they lack access to information. If the analyst's earnings forecast is greater than the actual value, the forecast optimism is positive; otherwise, it is negative. Optimism is estimated as follows:

$$Optimism_{i,t} = \frac{1}{N_{i,t}} \sum_{n=1}^{N_{i,t}} \left(F_{i,t} - A_{i,t}\right) \Big/ P_{i,t-1} \tag{2}$$

(2) Control variables.

**Table 3**
Descriptive Statistics.

| Variable | Mean | Std Dev | Median | Min | Max |
|---|---|---|---|---|---|
| *Optimism1* | 0.0100 | 0.0300 | 0.0050 | −0.1900 | 0.3200 |
| *Optimism2* | 0.0090 | 0.0190 | 0.0040 | −0.1250 | 0.0210 |
| *Inquiry* | 0.2580 | 0.3620 | 0.0000 | 0.0000 | 1.0000 |
| *Post* | 0.5040 | 0.5000 | 0.0000 | 0.0000 | 1.0000 |
| *Size* | 22.167 | 1.157 | 22.026 | 17.896 | 30.6770 |
| *Lev* | 0.4560 | 0.2050 | 0.4480 | 0.0170 | 1.0000 |
| *Roa* | 0.0290 | 0.0800 | 0.0330 | −0.1250 | 0.4820 |
| *Indep* | 0.3740 | 0.0550 | 0.3330 | 0.2220 | 0.8000 |
| *Top1* | 0.3350 | 0.1430 | 0.3220 | 0.0360 | 0.8940 |
| *Duality* | 0.2840 | 0.4510 | 0.0000 | 0.0000 | 1.0000 |
| *Weak* | 0.2690 | 0.4430 | 0.0000 | 0.0000 | 1.0000 |
| *Big4* | 0.0440 | 0.2060 | 0.0000 | 0.0000 | 1.0000 |
| *SOE* | 0.2220 | 0.4160 | 0.0000 | 0.0000 | 1.0000 |

**Table 4**
M&A Comment Letter and Analysts' Optimism.

| *Dep.Var = Optimism* | Coeff. | *Optimism1* | T-value | Coeff. | *Optimism2* | T-value |
|---|---|---|---|---|---|---|
| *Inquiry* | 0.002* | | 1.66 | 0.002* | | 1.72 |
| *Post* | 0.001 | | 1.59 | 0.001* | | 1.92 |
| *Inquiry* Post* | −0.004** | | −2.53 | −0.004** | | −2.46 |
| *Size* | 0.004*** | | 5.61 | 0.005*** | | 6.50 |
| *Lev* | 0.011*** | | 3.72 | 0.012*** | | 3.90 |
| *Roa* | 0.525*** | | 94.92 | 0.538*** | | 95.61 |
| *Indep* | −0.042*** | | −5.40 | −0.042*** | | −5.36 |
| *Top1* | 0.000 | | 0.50 | 0.000 | | 0.47 |
| *Duality* | 0.000 | | 0.25 | 0.001 | | 0.67 |
| *Weak* | −0.006*** | | −6.41 | −0.006*** | | −6.56 |
| *Big4* | 0.012*** | | 3.87 | 0.011*** | | 3.47 |
| *SOE* | −0.004 | | −1.58 | −0.005* | | −1.85 |
| *Year* | Yes | | | Yes | | |
| *Ind* | Yes | | | Yes | | |
| *N* | 10,768 | | | 10,768 | | |
| *adj.* $R^2$ | 0.533 | | | 0539 | | |

**TABLE 5**
Market Sentiment, M&A Comment Letters and Analysts' Optimism.

| *Dep.Var = Optimism* | *Optimism1* | | *Optimism1* | | | *Optimism2* | | | *Optimism2* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | High | | Low | | | High | | | Low | |
| | Coeff. | T-value | Coeff. | T-value | Coeff. | | T-value | Coeff. | | T-value |
| *Inquiry* | 0.003** | 2.19 | −0.000 | −0.39 | 0.003** | | 2.11 | −0.000 | | −0.20 |
| *Post* | 0.001 | 1.02 | 0.000 | 0.29 | 0.001 | | 1.43 | 0.000 | | 0.09 |
| *Inquiry* Post* | −0.006*** | −2.89 | 0.001 | 0.77 | −0.006*** | | −2.79 | 0.001 | | 0.97 |
| *Size* | 0.011*** | 10.57 | 0.004*** | 4.23 | 0.012*** | | 11.23 | 0.004*** | | 3.73 |
| *Lev* | 0.006 | 1.52 | 0.004 | 1.02 | 0.006 | | 1.49 | 0.007* | | 1.86 |
| *Roa* | 0.576*** | 83.96 | 0.306*** | 35.81 | 0.589*** | | 84.57 | 0.310*** | | 35.81 |
| *Indep* | −0.063*** | −6.04 | 0.005 | 0.52 | −0.061*** | | −5.82 | 0.001 | | 0.07 |
| *Top1* | 0.000*** | 3.29 | −0.000 | −0.16 | 0.000*** | | 3.47 | −0.000 | | −1.06 |
| *Duality* | 0.001 | 1.11 | −0.005*** | −4.21 | 0.002* | | 1.72 | −0.005*** | | −4.13 |
| *Weak* | −0.005*** | −4.02 | −0.006*** | −4.53 | −0.005*** | | −4.15 | −0.007*** | | −5.22 |
| *Big4* | 0.008** | 2.23 | 0.009* | 1.89 | 0.009** | | 2.34 | −0.001 | | −0.20 |
| *SOE* | −0.002 | −0.42 | −0.005 | −1.38 | −0.003 | | −0.69 | −0.006 | | −1.62 |
| *Year* | Yes | | Yes | | Yes | | | Yes | | |
| *Ind* | Yes | | Yes | | Yes | | | Yes | | |
| *N* | 5384 | | 5384 | | 5384 | | | 5384 | | |
| *adj.* $R^2$ | 0.533 | | 0539 | | 0533 | | | 0539 | | |

We include controls for previously identified determinants of the properties of analysts' information environments (Barron et al., 2008, 2017). Specifically, we incorporate controls for firm size (Size), profitability (Roa), leverage (Lev), degree of ownership concentration (Top1), proportion of independent directors (Indep), duality between chairman and general manager (Duality), and internal control (Weak). Big4 is a dummy equal to one of the firms audited by a Big 4 audit firm, while SOE is a dummy equal to that of a

**Table 6**
Conflicts of Interest, M&A Comment Letters and Analysts' Optimism.

| *Dep.Var = Optimism* | *Optimism1* | | *Optimism1* | | | *Optimism2* | | | *Optimism2* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Low | | High | | | Low | | | High | |
| | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value | Coeff. | | T-value | |
| *Inquiry* | −0.000 | −0.10 | 0.002 | 1.39 | −0.000 | −0.19 | 0.002 | | 1.50 | |
| *Post* | 0.001 | 1.20 | 0.000 | 0.13 | 0.001 | 1.21 | 0.000 | | 0.50 | |
| *Inquiry* Post* | 0.000 | 0.06 | −0.003* | −1.91 | 0.001 | 0.25 | −0.003* | | −1.86 | |
| *Size* | −0.001 | −1.23 | 0.011*** | 10.89 | −0.001 | −1.27 | 0.012*** | | 11.92 | |
| *Lev* | −0.010** | −2.15 | 0.008** | 2.44 | −0.010** | −1.99 | 0.009** | | 2.51 | |
| *Roa* | 0.314*** | 29.33 | 0.606*** | 94.68 | 0.315*** | 28.93 | 0.624*** | | 95.77 | |
| *Indep* | 0.002 | 0.16 | −0.002 | −0.22 | 0.002 | 0.13 | −0.001 | | −0.16 | |
| *Top1* | −0.000*** | −3.57 | 0.000*** | 3.43 | −0.000*** | −3.78 | 0.000*** | | 3.63 | |
| *Duality* | −0.008*** | −5.63 | 0.001 | 0.90 | −0.009*** | −5.90 | 0.002* | | 1.68 | |
| *Weak* | −0.010*** | −6.38 | −0.006*** | −5.89 | −0.010*** | −6.37 | −0.006*** | | −5.70 | |
| *Big4* | −0.009 | −0.98 | 0.012*** | 3.79 | −0.009 | −1.01 | 0.012*** | | 3.77 | |
| *SOE* | 0.014*** | 3.34 | 0.005 | 1.41 | 0.014*** | 3.34 | 0.005 | | 1.44 | |
| *Year* | Yes | | Yes | | Yes | | Yes | | | |
| *Ind* | Yes | | Yes | | Yes | | Yes | | | |
| *N* | 5384 | | 5384 | | 5384 | | 5384 | | | |
| *adj. $R^2$* | 0.587 | | 0.671 | | 0.587 | | 0.671 | | | |

**Table 7**
M&A Comment Letter and Analysts' Optimism(PSM).

PanelA 1:1 PSM method

| *Dep.Var = Optimism* | Coeff. | *Optimism1* | T-value | Coeff. | *Optimism2* | T-value |
|---|---|---|---|---|---|---|
| *Inquiry* | 0.000 | | 0.12 | 0.000 | | 0.06 |
| *Post* | 0.001 | | 0.63 | 0.001 | | 0.55 |
| *Inquiry* Post* | −0.002** | | −1.98 | −0.002** | | −1.96 |
| *Size* | −0.002*** | | −3.39 | −0.002*** | | −2.90 |
| *Lev* | 0.023*** | | 5.73 | 0.022*** | | 5.46 |
| *Roa* | 0.384*** | | 36.75 | 0.390*** | | 36.54 |
| *Indep* | −0.024* | | −1.95 | −0.021* | | −1.72 |
| *Top1* | −0.000 | | −1.35 | −0.000 | | −1.42 |
| *Duality* | 0.003* | | 1.89 | 0.003* | | 1.78 |
| *Weak* | 0.001 | | 0.74 | 0.001 | | 0.43 |
| *Big4* | 0.001 | | 0.22 | 0.000 | | 0.12 |
| *SOE* | 0.009*** | | 4.98 | 0.009*** | | 4.80 |
| *Year* | Yes | | | Yes | | |
| *Ind* | Yes | | | Yes | | |
| *N* | 6628 | | | 6628 | | |
| *adj. $R^2$* | 0.017 | | | 0.017 | | |

Panel B 1:3 PSM method

| *Dep.Var = Optimism* | Coeff. | *Optimism1* | T-value | Coeff. | *Optimism2* | T-value |
|---|---|---|---|---|---|---|
| *Inquiry* | 0.000 | | 0.14 | 0.000 | | 0.07 |
| *Post* | 0.031 | | 0.64 | 0.002 | | 0.56 |
| *Inquiry* Post* | −0.043** | | −1.99 | −0.003** | | −1.99 |
| *Size* | −0.013*** | | −3.49 | −0.004*** | | −2.91 |
| *Lev* | 0.036*** | | 5.76 | 0.024*** | | 5.47 |
| *Roa* | 0.324*** | | 36.78 | 0.392*** | | 36.56 |
| *Indep* | −0.054* | | −1.97 | −0.023* | | −1.74 |
| *Top1* | −0.000 | | −1.37 | −0.000 | | −1.43 |
| *Duality* | 0.007* | | 1.88 | 0.002* | | 1.77 |
| *Weak* | 0.002 | | 0.79 | 0.002 | | 0.45 |
| *Big4* | 0.002 | | 0.24 | 0.000 | | 0.13 |
| *SOE* | 0.006*** | | 4.99 | 0.008*** | | 4.81 |
| *Year* | Yes | | | Yes | | |
| *Ind* | Yes | | | Yes | | |
| *N* | 13,256 | | | 13,256 | | |
| *adj. $R^2$* | 0.019 | | | 0.019 | | |

**Table 8**
Market Sentiment, M&A Comment Letters and Analysts' Optimism(PSM).

PanelA 1:1 PSM method

| *Dep.Var = Optimism* | *Optimism1* | | *Optimism1* | | | *Optimism2* | | | *Optimism2* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | High | | Low | | | High | | | Low | |
| | Coeff. | T-value | Coeff. | T-value | Coeff. | | T-value | Coeff. | | T-value |
| *Inquiry* | 0.002 | 0.67 | −0.000 | −0.23 | 0.002 | | 0.61 | −0.000 | | −0.18 |
| *Post* | −0.001 | −0.20 | 0.003 | 1.03 | −0.001 | | −0.30 | 0.003 | | 1.17 |
| *Inquiry* Post* | −0.001** | −2.34 | 0.001 | 0.35 | −0.001** | | −2.31 | 0.001 | | 0.22 |
| *Size* | −0.013*** | −2.63 | −0.006** | −2.15 | −0.015*** | | −3.09 | −0.006** | | −2.18 |
| *Lev* | 0.063*** | 3.96 | 0.076*** | 5.55 | 0.064*** | | 3.86 | 0.078*** | | 5.74 |
| *Roa* | 0.446*** | 17.56 | 0.698*** | 33.70 | 0.480*** | | 18.14 | 0.695*** | | 33.82 |
| *Indep* | −0.017 | −0.44 | −0.147*** | −3.02 | −0.007 | | −0.19 | −0.139*** | | −2.88 |
| *Top1* | −0.001 | −1.54 | −0.000 | −0.66 | −0.001** | | −2.01 | −0.000 | | −0.59 |
| *Duality* | −0.016*** | −3.07 | 0.019*** | 3.65 | −0.018*** | | −3.19 | 0.019*** | | 3.73 |
| *Weak* | 0.003 | 0.60 | −0.001 | −0.10 | 0.002 | | 0.41 | −0.001 | | −0.16 |
| *Big4* | 0.007 | 0.42 | −0.002 | −0.09 | 0.007 | | 0.40 | −0.001 | | −0.09 |
| *SOE* | −0.024 | −1.26 | 0.052* | 1.65 | −0.021 | | −1.03 | 0.052* | | 1.66 |
| *Year* | Yes | | Yes | | Yes | | | Yes | | |
| *Ind* | Yes | | Yes | | Yes | | | Yes | | |
| *N* | 3314 | | 3314 | | 3314 | | | 3314 | | |
| *adj. $R^2$* | 0.533 | | 0539 | | 0533 | | | 0539 | | |

PanelB 1:3 PSM method

| *Dep.Var = Optimism* | *Optimism1* | | *Optimism1* | | | *Optimism2* | | | *Optimism2* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | High | | Low | | | High | | | Low | |
| | Coeff. | T-value | Coeff. | T-value | Coeff. | | T-value | Coeff. | | T-value |
| *Inquiry* | 0.003 | 0.65 | −0.000 | −0.23 | 0.003 | | 0.51 | −0.000 | | −0.19 |
| *Post* | −0.002 | −0.22 | 0.002 | 1.02 | −0.003 | | −0.33 | 0.004 | | 1.14 |
| *Inquiry* Post* | −0.002** | −2.35 | 0.004 | 0.34 | −0.002** | | −2.33 | 0.002 | | 0.32 |
| *Size* | −0.023*** | −2.65 | −0.005** | −2.14 | −0.014*** | | −3.19 | −0.005** | | −2.14 |
| *Lev* | 0.062*** | 3.97 | 0.077*** | 5.54 | 0.063*** | | 3.84 | 0.076*** | | 5.14 |
| *Roa* | 0.426*** | 17.57 | 0.699*** | 33.72 | 0.481*** | | 18.04 | 0.693*** | | 33.83 |
| *Indep* | −0.016 | −0.43 | −0.148*** | −3.03 | −0.006 | | −0.18 | −0.129*** | | −2.89 |
| *Top1* | −0.002 | −1.56 | −0.001 | −0.67 | −0.002** | | −2.21 | −0.000 | | −0.58 |
| *Duality* | −0.015*** | −3.06 | 0.018*** | 3.64 | −0.017*** | | −3.17 | 0.018*** | | 3.72 |
| *Weak* | 0.002 | 0.62 | −0.002 | −0.14 | 0.003 | | 0.45 | −0.002 | | −0.15 |
| *Big4* | 0.008 | 0.43 | −0.001 | −0.06 | 0.006 | | 0.41 | −0.003 | | −0.08 |
| *SOE* | −0.025 | −1.27 | 0.054* | 1.66 | −0.022 | | −1.05 | 0.0521* | | 1.67 |
| *Year* | Yes | | Yes | | Yes | | | Yes | | |
| *Ind* | Yes | | Yes | | Yes | | | Yes | | |
| *N* | 6628 | | 6628 | | 6628 | | | 6628 | | |
| *adj. $R^2$* | 0.534 | | 0.538 | | 0.523 | | | 0.534 | | |

state-owned enterprise. The definitions and measurements of the main variables are summarized in Table 2.

## 5. Results

### 5.1. Descriptive statistics

Table 3 presents the descriptive statistics of the sample and the related variables. The medians of Optimism1 and Optimism2 of analysts' earnings forecasts are 0.0050 and 0.0040, respectively, indicating that there is a general tendency of "optimism" in the earnings forecast behavior of securities analysts in China. The average value of Inquiry is 0.2580, indicating that approximately 25.80 % of all sample companies have received M&A comment letters. The average values of Weak, Duality, Big4, and SOE are 0.2690, 0.2840, 0.0440, and 0.2220, respectively, indicating that approximately 26.90 % of the sample companies have internal control defects, 28.40 % of the sample companies have a combination of chairman and general manager, 4.40 % of the sample companies employ the Big4 as auditors, and 22.20 % of the sample companies are state-owned enterprises.

### 5.2. Main empirical results

(1) M&A comment letters and analysts' earnings forecast optimistic bias optimism.

**Table 9**
Conflicts of Interest, M&A Comment Letters and Analysts' Optimism(PSM).

PanelA 1:1 PSM method

| *Dep.Var = Optimism* | *Optimism1* | | *Optimism1* | | *Optimism2* | | *Optimism2* | |
|---|---|---|---|---|---|---|---|---|
| | High | | Low | | High | | Low | |
| | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value |
| *Inquiry* | 0.002 | 0.67 | −0.000 | −0.23 | 0.002 | 0.61 | −0.000 | −0.18 |
| *Post* | −0.001 | −0.20 | 0.003 | 1.03 | −0.001 | −0.30 | 0.003 | 1.17 |
| *Inquiry* Post* | −0.001** | −2.34 | 0.001 | 0.35 | −0.001** | −2.31 | 0.001 | 0.22 |
| *Size* | −0.013*** | −2.63 | −0.006** | −2.15 | −0.015*** | −3.09 | −0.006** | −2.18 |
| *Lev* | 0.063*** | 3.96 | 0.076*** | 5.55 | 0.064*** | 3.86 | 0.078*** | 5.74 |
| *Roa* | 0.446*** | 17.56 | 0.698*** | 33.70 | 0.480*** | 18.14 | 0.695*** | 33.82 |
| *Indep* | −0.017 | −0.44 | −0.147*** | −3.02 | −0.007 | −0.19 | −0.139*** | −2.88 |
| *Top1* | −0.001 | −1.54 | −0.000 | −0.66 | −0.001** | −2.01 | −0.000 | −0.59 |
| *Duality* | −0.016*** | −3.07 | 0.019*** | 3.65 | −0.018*** | −3.19 | 0.019*** | 3.73 |
| *Weak* | 0.003 | 0.60 | −0.001 | −0.10 | 0.002 | 0.41 | −0.001 | −0.16 |
| *Big4* | 0.007 | 0.42 | −0.002 | −0.09 | 0.007 | 0.40 | −0.001 | −0.09 |
| *SOE* | −0.024 | −1.26 | 0.052* | 1.65 | −0.021 | −1.03 | 0.052* | 1.66 |
| *Year* | Yes | | Yes | | Yes | | Yes | |
| *Ind* | Yes | | Yes | | Yes | | Yes | |
| *N* | 3314 | | 3314 | | 3314 | | 3314 | |
| *adj. $R^2$* | 0.587 | | 0.671 | | 0.587 | | 0.671 | |

PanelB 1:3 PSM method

| *Dep.Var = Optimism* | *Optimism1* | | *Optimism1* | | *Optimism2* | | *Optimism2* | |
|---|---|---|---|---|---|---|---|---|
| | High | | Low | | High | | Low | |
| | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value |
| *Inquiry* | 0.003 | 0.67 | −0.000 | −0.33 | 0.002 | 0.61 | −0.000 | −0.18 |
| *Post* | −0.002 | −0.20 | 0.013 | 1.23 | −0.001 | −0.40 | 0.005 | 1.17 |
| *Inquiry* Post* | −0.001** | −2.44 | 0.011 | 0.45 | −0.011** | −2.33 | 0.021 | 0.23 |
| *Size* | −0.043*** | −2.73 | −0.016** | −2.25 | −0.025*** | −3.19 | −0.016** | −2.28 |
| *Lev* | 0.073*** | 3.99 | 0.079*** | 5.35 | 0.054*** | 3.89 | 0.077*** | 5.75 |
| *Roa* | 0.476*** | 17.59 | 0.718*** | 33.71 | 0.488*** | 18.24 | 0.685*** | 33.42 |
| *Indep* | −0.057 | −0.47 | −0.157*** | −3.12 | −0.017 | −0.29 | −0.137*** | −2.78 |
| *Top1* | −0.021 | −1.59 | −0.000 | −0.62 | −0.011** | −2.02 | −0.010 | −0.69 |
| *Duality* | −0.019*** | −3.17 | 0.018*** | 3.45 | −0.019*** | −3.29 | 0.029*** | 3.91 |
| *Weak* | 0.006 | 0.63 | −0.011 | −0.11 | 0.012 | 0.42 | −0.002 | −0.16 |
| *Big4* | 0.002 | 0.62 | −0.012 | −0.19 | 0.008 | 0.45 | −0.011 | −0.09 |
| *SOE* | −0.014 | −1.26 | 0.042* | 1.66 | −0.031 | −1.13 | 0.042* | 1.66 |
| *Year* | Yes | | Yes | | Yes | | Yes | |
| *Ind* | Yes | | Yes | | Yes | | Yes | |
| *N* | 6628 | | 6628 | | 6628 | | 6628 | |
| *adj. $R^2$* | 0.534 | | 0.538 | | 0.523 | | 0.534 | |

Table 4 reports the results of the multivariate regression analyses that examine M&A comment letters and analysts' optimism. Column 1 estimates eq. 1 using Optimism1 as the dependent variable. The coefficient on Inquiry* Post (Inquiry* Post = −0.004; t-statistic = −2.53) is negative and significant, indicating that firms with M&A comment letters have significantly lower analyst forecast optimistic bias in the post-period than those that not receiving M&A comment letters. Column 2 estimates Eq. 1 using Optimism2 as the dependent variable. The coefficient on Inquiry* Post (Inquiry* Post = −0.004; t- statistic = −2.46) is negative and significant, indicating that firms with M&A comment letters have significantly lower analyst forecast optimism bias in the post-period than those that not receiving M&A comment letters. These results support Hypothesis 1.

(2) Market sentiment, M&A comment letters, and analysts' earnings forecast optimism bias.

To test the relationship between market sentiment, M&A comment letters, and analysts' earnings forecast optimism bias, we divide firms into two subgroups based on the median value of market sentiment. We measure market sentiment as the change in the average daily turnover rate of stocks in years t and t-1. Columns 1 and 2 estimate Eq. 1 using *Optimism1* as the dependent variable. Column 1 of Table 5 reports the regression results for high market sentiment (above the median value of turnover rate), and Column 2 of Table 5 reports the regression results for low market sentiment (equal to or below the median value of turnover rate). Consistent with our expectations, the coefficient estimate associated with Inquiry* Post is statistically negative only for high market sentiment. In contrast, the coefficient estimate associated with Inquiry* Post is not significant for low market sentiment. In other words, firms with M&A comment letters have significantly lower analyst forecast optimism bias in the post-period are driven mainly by firms with high market

**Table 10**
M&A Comment Letters and Analysts' Optimism(Placebo Test).

| *Dep.Var = Optimism1* | 2010 | | 2011 | |
|---|---|---|---|---|
| | Coeff. | T-value | Coeff. | T-value |
| *Inquiry* | 0.028 | 0.59 | 0.097 | 1.24 |
| *Post* | 0.017 | 0.76 | 0.007 | 0.57 |
| *Inquiry* Post* | −0.019 | −0.50 | −0.009 | −0.78 |
| *Size* | −0.006 | −1.32 | −0.006 | −1.29 |
| *Lev* | −0.039 | −1.32 | −0.040 | −1.35 |
| *Roa* | −3.508*** | −50.59 | −3.511*** | −50.62 |
| *Indep* | −0.048 | −0.52 | −0.049 | −0.54 |
| *Top1* | 0.099*** | 2.59 | 0.101*** | 2.64 |
| *Duality* | −0.011 | −1.01 | −0.010 | −1.23 |
| *Weak* | 0.006*** | 3.62 | 0.006*** | 3.58 |
| *Big4* | −0.008 | −0.30 | −0.007 | −0.54 |
| *SOE* | −0.020 | −1.47 | −0.020 | −1.46 |
| *Year* | Yes | Yes | Yes | Yes |
| *Ind* | Yes | Yes | Yes | Yes |
| *N* | 4398 | | 4398 | |
| *adj. $R^2$* | 0.243 | | 0.376 | |

**Table 11**
M&A Comment Letters and Analysts' Optimism(Placebo test).

| *Dep.Var = Optimism2* | 2010 | | 2011 | |
|---|---|---|---|---|
| | Coeff. | T-value | Coeff. | T-value |
| *Inquiry* | 0.029 | 0.59 | 0.099 | 1.24 |
| *Post* | 0.018 | 0.76 | 0.008 | 0.57 |
| *Inquiry* Post* | −0.019 | −0.50 | −0.010 | −0.78 |
| *Size* | −0.007 | −1.32 | −0.007 | −1.29 |
| *Lev* | −0.039 | −1.32 | −0.041 | −1.35 |
| *Roa* | −3.508*** | −50.59 | −3.512*** | −50.62 |
| *Indep* | −0.048 | −0.52 | −0.050 | −0.54 |
| *Top1* | 0.090*** | 2.59 | 0.111*** | 2.64 |
| *Duality* | −0.011 | −1.01 | −0.010 | −1.23 |
| *Weak* | 0.007*** | 3.62 | 0.006*** | 3.58 |
| *Big4* | −0.008 | −0.30 | −0.008 | −0.54 |
| *SOE* | −0.021 | −1.47 | −0.021 | −1.46 |
| *Year* | Yes | Yes | Yes | Yes |
| *Ind* | Yes | Yes | Yes | Yes |
| *N* | 4398 | | 4398 | |
| *adj. $R^2$* | 0.243 | | 0.376 | |

sentiment. Columns 3 and 4 estimate Eq. 1 using Optimism2 as the dependent variable. Column 3 of Table 5 reports the regression results for high market sentiment (above the median value of turnover rate), and Column 4 of Table 5 reports the regression results for low market sentiment (equal to or below the median value of turnover rate). Consistent with our expectations, the coefficient estimate associated with Inquiry* Post is statistically negative only for high market sentiment. These results support Hypothesis 2.

(3) Conflicts of interest, M&A comment letters, and analysts' earnings forecast optimism bias.

To test the relationship between conflicts of interest, M&A comment letters, and analysts' earnings forecast optimistic bias, we divide firms into two subgroups based on the median value of conflicts of interest. We measure conflicts of interest as the change in the shareholding ratio of institutional investors in years t and t-1. Columns 1 and 2 estimate Eq. 1 using Optimism1 as the dependent variable. Column 1 of Table 6 reports the regression results for high conflicts of interest (above the median value of shareholding ratio of institutional investors), and Column 2 of Table 6 reports the regression results for low conflicts of interest (equal to or below the median value of shareholding ratio of institutional investors). Consistent with our expectations, the coefficient estimate associated with Inquiry* Post is statistically negative only for high conflicts of interest. In contrast, the coefficient estimate associated with Inquiry* Post is not significant for low conflicts of interest. In other words, firms with M&A comment letters have significantly lower analyst forecast optimistic bias in the post-period are driven mainly by firms with high conflicts of interest. Columns 3 and 4 estimate Eq. 1 using Optimism2 as the dependent variable. Column 3 of Table 6 reports the regression results for high conflicts of interest (above the median value of shareholding ratio of institutional investors), and Column 4 of Table 6 reports the regression results for low conflicts of interest (equal to or below the median value of shareholding ratio of institutional investors). Consistent with our expectations, the coefficient estimate associated with Inquiry*Post is statistically negative only for high conflicts of interest. These results support Hypothesis 3.

**Table 12**
M&A Comment Letters and Analysts' Optimism(Fixed Effect).

| PanelA Firm Fixed Effect | | | | |
|---|---|---|---|---|
| *Dep.Var = Optimism* | *Optimism1* | | *Optimism2* | |
| | Coeff. | T-value | Coeff. | T-value |
| *Inquiry* | 0.002* | 1.74 | 0.002* | 1.80 |
| *Post* | 0.001 | 1.56 | 0.001* | 1.89 |
| *Inquiry* Post* | −0.003** | −2.28 | −0.003** | −2.19 |
| *Size* | 0.005*** | 6.66 | 0.005*** | 7.61 |
| *Lev* | 0.010*** | 3.64 | 0.011*** | 3.74 |
| *Roa* | 0.505*** | 95.23 | 0.518*** | 96.11 |
| *Indep* | −0.037*** | −4.97 | −0.038*** | −4.92 |
| *Top1* | 0.000** | 2.12 | 0.000** | 2.12 |
| *Duality* | 0.000 | 0.31 | 0.001 | 0.70 |
| *Weak* | −0.005*** | −6.03 | −0.005*** | −6.18 |
| *Big4* | 0.011*** | 3.63 | 0.010*** | 3.25 |
| *SOE* | −0.004 | −1.35 | −0.004 | −1.60 |
| *Year* | Yes | | Yes | |
| *Firm* | Yes | | Yes | |
| *N* | 10,768 | | 10,768 | |
| *adj. $R^2$* | 0.0170 | | 0.0170 | |

| PanelB Province Fixed Effect | | | | |
|---|---|---|---|---|
| *Dep.Var = Optimism* | *Optimism1* | | *Optimism2* | |
| | Coeff. | T-value | Coeff. | T-value |
| *Inquiry* | 0.000 | 0.13 | 0.000 | 0.05 |
| *Post* | 0.001 | 0.53 | 0.002 | 0.25 |
| *Inquiry* Post* | −0.002** | −1.99 | −0.003** | −1.97 |
| *Size* | −0.002*** | −3.39 | −0.004*** | −2.80 |
| *Lev* | 0.023*** | 5.76 | 0.032*** | 5.43 |
| *Roa* | 0.384*** | 36.74 | 0.380*** | 36.44 |
| *Indep* | −0.024* | −1.85 | −0.022* | −1.78 |
| *Top1* | −0.000 | −1.36 | −0.001 | −1.48 |
| *Duality* | 0.003* | 1.99 | 0.005* | 1.79 |
| *Weak* | 0.001 | 0.75 | 0.002 | 0.53 |
| *Big4* | 0.001 | 0.42 | 0.000 | 0.13 |
| *SOE* | 0.009*** | 4.98 | 0.008*** | 4.70 |
| *Year* | Yes | | Yes | |
| *Ind* | Yes | | Yes | |
| *Pro* | Yes | | Yes | |
| *N* | 10,768 | | 10,768 | |
| *adj. $R^2$* | 0.017 | | 0.017 | |

### *5.3. Robustness tests*

(1) Propensity score matching.

There exists selection bias in estimating the financing constraint mitigation effect of the mergers and acquisitions (M&A) comment letters. In order to reduce the impact of the feature difference between receiving firms and non-receiving firms. The practice of drawing on existing literature, from the aspects of M&A event characteristics, internal and external governance, selected variables that had an impact on whether the company received the letter and performed 1:1 and 1:3 propensity score matching.

$$Inquiry_{i,t} = \alpha_0 + \alpha_1 \text{Dealrisk}_{i,t} + \sum Year + \sum Ind + \varepsilon \quad (3)$$

where the dependent variable inquiry is an indicator of whether a firm receives a comment letter. We use a battery of proxies for the M&A deal risk from the aspects of M&A event characteristics, internal and external governance, selected variables that had an impact on whether the company received the letter and performed 1:1and 1:3 propensity score matching. Tables 7, 8, and 9 report the regression results based on propensity score matching, which are consistent with the results of the main test.

(2) Placebo test.

To eliminate the impact of other policies on analysts' optimism bias, we also use a placebo test by changing the execution time of the regulatory system for the mergers and acquisitions (M&A) comment letters. Specifically, the period from 2008 to 2013 was taken as

**Table 13**
Market Sentiment, M&A Comment Letters and Analysts' Optimism(Fixed Effect).

PanelA Firm Fixed Effect

| *Dep.Var = Optimism* | *Optimism1* | | *Optimism1* | | *Optimism2* | | *Optimism2* | |
|---|---|---|---|---|---|---|---|---|
| | High | | Low | | High | | Low | |
| | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value |
| *Inquiry* | 0.002 | 0.67 | −0.000 | −0.23 | 0.002 | 0.61 | −0.000 | −0.18 |
| *Post* | −0.001 | −0.20 | 0.003 | 1.03 | −0.001 | −0.30 | 0.003 | 1.17 |
| *Inquiry* Post* | −0.001** | −2.34 | 0.001 | 0.35 | −0.001** | −2.31 | 0.001 | 0.22 |
| *Size* | −0.013*** | −2.63 | −0.006** | −2.15 | −0.015*** | −3.09 | −0.006** | −2.18 |
| *Lev* | 0.063*** | 3.96 | 0.076*** | 5.55 | 0.064*** | 3.86 | 0.078*** | 5.74 |
| *Roa* | 0.446*** | 17.56 | 0.698*** | 33.70 | 0.480*** | 18.14 | 0.695*** | 33.82 |
| *Indep* | −0.017 | −0.44 | −0.147*** | −3.02 | −0.007 | −0.19 | −0.139*** | −2.88 |
| *Top1* | −0.001 | −1.54 | −0.000 | −0.66 | −0.001** | −2.01 | −0.000 | −0.59 |
| *Duality* | −0.016*** | −3.07 | 0.019*** | 3.65 | −0.018*** | −3.19 | 0.019*** | 3.73 |
| *Weak* | 0.003 | 0.60 | −0.001 | −0.10 | 0.002 | 0.41 | −0.001 | −0.16 |
| *Big4* | 0.007 | 0.42 | −0.002 | −0.09 | 0.007 | 0.40 | −0.001 | −0.09 |
| *SOE* | −0.024 | −1.26 | 0.052* | 1.65 | −0.021 | −1.03 | 0.052* | 1.66 |
| *Year* | Yes | | Yes | | Yes | | Yes | |
| *Firm* | Yes | | Yes | | Yes | | Yes | |
| *N* | 5393 | | 5393 | | 5393 | | 5393 | |
| *adj. $R^2$* | 0.533 | | 0539 | | 0533 | | 0539 | |

PanelB Province Fixed Effect

| *Dep.Var = Optimism* | *Optimism1* | | *Optimism1* | | *Optimism2* | | *Optimism2* | |
|---|---|---|---|---|---|---|---|---|
| | High | | Low | | High | | Low | |
| | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value |
| *Inquiry* | 0.001 | 0.67 | −0.000 | −0.23 | 0.002 | 0.61 | −0.000 | −0.18 |
| *Post* | −0.003 | −0.20 | 0.003 | 1.03 | −0.001 | −0.30 | 0.003 | 1.17 |
| *Inquiry* Post* | −0.013** | −2.34 | 0.003 | 0.55 | −0.002** | −2.41 | 0.002 | 0.32 |
| *Size* | −0.032*** | −2.75 | −0.007** | −2.16 | −0.025*** | −3.09 | −0.008** | −2.18 |
| *Lev* | 0.074*** | 3.56 | 0.066*** | 5.65 | 0.062*** | 3.82 | 0.058*** | 5.14 |
| *Roa* | 0.436*** | 17.36 | 0.694*** | 33.71 | 0.460*** | 18.24 | 0.694*** | 32.82 |
| *Indep* | −0.024 | −0.34 | −0.137*** | −3.12 | −0.006 | −0.15 | −0.137*** | −2.78 |
| *Top1* | −0.021 | −1.64 | −0.000 | −0.76 | −0.001** | −2.11 | −0.000 | −0.59 |
| *Duality* | −0.017*** | −3.17 | 0.018*** | 3.68 | −0.028*** | −3.29 | 0.029*** | 3.73 |
| *Weak* | 0.023 | 0.60 | −0.001 | −0.30 | 0.003 | 0.42 | −0.001 | −0.17 |
| *Big4* | 0.027 | 0.52 | −0.002 | −0.05 | 0.006 | 0.30 | −0.001 | −0.09 |
| *SOE* | −0.024 | −1.17 | 0.053* | 1.75 | −0.031 | −1.03 | 0.052* | 1.76 |
| *Year* | Yes | | Yes | | Yes | | Yes | |
| *Ind* | Yes | | Yes | | Yes | | Yes | |
| *Pro* | Yes | | Yes | | Yes | | Yes | |
| *N* | 5384 | | 5384 | | 5384 | | 5384 | |
| *adj. $R^2$* | 0.533 | | 0.539 | | 0.533 | | 0.539 | |

the investigation period for the counterfactual test, and 2010 and 2011 were successively taken as the time when the processing group first received the hypothetical M&A comment letters to test it. Table 10 estimates Eq. 1 using Optimism1 as the dependent variable, and Table 11 estimates Eq. 1 using Optimism2 as the dependent variable. These results are consistent with those of the main test.

(3) Model adjustment.

In this section, we transition from industry fixed effects to company-fixed effects and we add province fixed effects. The results are detailed in Tables 12, 13, and 14. and these results align with our primary findings.

(4) Alternative measures of analysts' optimism.

We replicate previous results by changing the measurement window of analysts' annual earnings forecasts to 180 days before the suspension (after the resumption of trading). The results are presented in Tables 15, 16, and 17. These results were consistent with those of the main test.

**Table 14**
Conflicts of Interest, M&A Comment Letters and Analysts' Optimism(Fixed Effect).

PanelA Firm Fixed Effect

| *Dep.Var = Optimism* | *Optimism1* | | *Optimism1* | | *Optimism2* | | *Optimism2* | |
|---|---|---|---|---|---|---|---|---|
| | High | | Low | | High | | Low | |
| | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value |
| *Inquiry* | 0.002 | 0.67 | −0.000 | −0.23 | 0.002 | 0.61 | −0.000 | −0.18 |
| *Post* | −0.001 | −0.20 | 0.003 | 1.03 | −0.001 | −0.30 | 0.003 | 1.17 |
| *Inquiry* Post* | −0.001** | −2.34 | 0.001 | 0.35 | −0.001** | −2.31 | 0.001 | 0.22 |
| *Size* | −0.013*** | −2.63 | −0.006** | −2.15 | −0.015*** | −3.09 | −0.006** | −2.18 |
| *Lev* | 0.063*** | 3.96 | 0.076*** | 5.55 | 0.064*** | 3.86 | 0.078*** | 5.74 |
| *Roa* | 0.446*** | 17.56 | 0.698*** | 33.70 | 0.480*** | 18.14 | 0.695*** | 33.82 |
| *Indep* | −0.017 | −0.44 | −0.147*** | −3.02 | −0.007 | −0.19 | −0.139*** | −2.88 |
| *Top1* | −0.001 | −1.54 | −0.000 | −0.66 | −0.001** | −2.01 | −0.000 | −0.59 |
| *Duality* | −0.016*** | −3.07 | 0.019*** | 3.65 | −0.018*** | −3.19 | 0.019*** | 3.73 |
| *Weak* | 0.003 | 0.60 | −0.001 | −0.10 | 0.002 | 0.41 | −0.001 | −0.16 |
| *Big4* | 0.007 | 0.42 | −0.002 | −0.09 | 0.007 | 0.40 | −0.001 | −0.09 |
| *SOE* | −0.024 | −1.26 | 0.052* | 1.65 | −0.021 | −1.03 | 0.052* | 1.66 |
| *Year* | Yes | | Yes | | Yes | | Yes | |
| *Firm* | Yes | | Yes | | Yes | | Yes | |
| *N* | 5393 | | 5393 | | 5393 | | 5393 | |
| *adj. $R^2$* | 0.587 | | 0.671 | | 0.587 | | 0.671 | |

PanelB Province Fixed Effect

| *Dep.Var = Optimism* | *Optimism1* | | *Optimism1* | | *Optimism2* | | *Optimism2* | |
|---|---|---|---|---|---|---|---|---|
| | High | | Low | | High | | Low | |
| | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value |
| *Inquiry* | 0.002 | 0.67 | −0.000 | −0.23 | 0.002 | 0.61 | −0.000 | −0.18 |
| *Post* | −0.002 | −0.20 | 0.003 | 1.13 | −0.011 | −0.30 | 0.013 | 1.27 |
| *Inquiry* Post* | −0.011** | −2.44 | 0.004 | 0.35 | −0.002** | −2.41 | 0.002 | 0.32 |
| *Size* | −0.016*** | −2.71 | −0.016** | −2.25 | −0.025*** | −3.19 | −0.016** | −2.38 |
| *Lev* | 0.053*** | 3.86 | 0.086*** | 5.57 | 0.064*** | 3.26 | 0.068*** | 5.64 |
| *Roa* | 0.434*** | 17.55 | 0.678*** | 33.61 | 0.470*** | 18.34 | 0.675*** | 33.72 |
| *Indep* | −0.0127 | −0.34 | −0.137*** | −3.12 | −0.006 | −0.29 | −0.129*** | −2.58 |
| *Top1* | −0.001 | −1.44 | −0.002 | −0.65 | −0.011** | −2.11 | −0.000 | −0.49 |
| *Duality* | −0.016*** | −3.05 | 0.017*** | 3.55 | −0.017*** | −3.29 | 0.018*** | 3.13 |
| *Weak* | 0.003 | 0.50 | −0.011 | −0.10 | 0.002 | 0.31 | −0.001 | −0.26 |
| *Big4* | 0.007 | 0.32 | −0.001 | −0.08 | 0.007 | 0.30 | −0.001 | −0.09 |
| *SOE* | −0.024 | −1.23 | 0.042* | 1.75 | −0.021 | −1.13 | 0.042* | 1.66 |
| *Year* | Yes | | Yes | | Yes | | Yes | |
| *Ind* | Yes | | Yes | | Yes | | Yes | |
| *Pro* | Yes | | Yes | | Yes | | Yes | |
| *N* | 5384 | | 5384 | | 5384 | | 5384 | |
| *adj. $R^2$* | 0.587 | | 0.671 | | 0.587 | | 0.671 | |

### *5.4. Additional tests*

(1) Influence of the textual characteristics of M&A comment letters on analysts' optimism.

Owing to the differences in the content of the mergers and acquisitions (M&A) comment letters comment letters issued by the CSRC, we further explore the impact of the segmentation textual characteristics on the optimistic bias of analysts' earnings forecasts. On the one hand, from the perspective of the characteristics of receiving letters, when the M&A comment letters require intermediaries to issue verification opinions, enforcement is relatively stronger, the governance role of intermediaries is greater, and the inhibition of analysts' optimism bias may be more effective. The more questions involved in the M&A comment letters, and the more questions asked about the same question, the more detailed replies will be required by the company. In this way, the total amount of information in the market will increase, information asymmetry will be reduced, and the inhibition of analysts' optimistic bias may be more effective. On the other hand, from the point of view of the characteristics of reply letters, the company's replies are also different. The longer the interval between receipt and reply, or even when the company delays the reply and the more detailed the content of the reply, it will increase the total amount of information in the market, reduce the information asymmetry, and ultimately reduce the analyst optimism bias. In conclusion, the segmentation textual characteristics of M&A comment letters may have different effects on analysts' optimism bias. To test the impact of subdivision features of M&A comment letters on analysts' optimism bias, the following model is constructed for testing:

**Table 15**
M&A Comment Letters and Analysts' Optimism(Alternative Measures of Analysts' Optimism).

| *Dep.Var = Optimism* | *Optimism1* | | *Optimism2* | |
|---|---|---|---|---|
| | Coeff. | T-value | Coeff. | T-value |
| *Inquiry* | 0.189 | 0.75 | 0.294 | 1.18 |
| *Post* | −0.157 | −1.34 | −0.185 | −1.60 |
| *Inquiry* Post* | −0.883** | −2.40 | −0.906** | −2.50 |
| *Size* | 6.144*** | 33.98 | 6.159*** | 34.47 |
| *Lev* | −0.724 | −0.93 | −0.263 | −0.34 |
| *Roa* | 3.042** | 2.28 | 2.156 | 1.64 |
| *Indep* | −3.620* | −1.91 | −3.680** | −1.97 |
| *Top1* | 0.014 | 1.03 | 0.015 | 1.14 |
| *Duality* | −1.712*** | −7.53 | −1.697*** | −7.56 |
| *Weak* | −0.023 | −0.11 | −0.117 | −0.58 |
| *Big4* | 27.971*** | 28.96 | 27.852*** | 29.19 |
| *SOE* | −1.982*** | −2.75 | −1.891*** | −2.66 |
| *Year* | Yes | | Yes | |
| *Ind* | Yes | | Yes | |
| *N* | 10,786 | | 10,786 | |
| *adj. $R^2$* | 0.533 | | 0539 | |

**Table 16**
Market Sentiment, M&A Comment Letters and Analysts' Optimism(Alternative Measures of Analysts' Optimism).

| *Dep.Var = Optimism* | *Optimism1* | | *Optimism1* | | *Optimism2* | | *Optimism2* | |
|---|---|---|---|---|---|---|---|---|
| | High | | Low | | High | | Low | |
| | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value |
| *Inquiry* | 0.427 | 1.60 | −0.022 | −0.30 | 0.080** | 2.43 | 0.416 | 1.57 |
| *Post* | 0.093 | 0.64 | 0.045 | 1.40 | 0.012 | 0.85 | 0.076 | 0.53 |
| *Inquiry* Post* | −0.886* | −1.96 | −0.099 | −0.95 | −0.132*** | −2.82 | −0.870 | −1.13 |
| *Size* | 4.909*** | 18.97 | 0.764*** | 11.87 | 0.685*** | 23.83 | 4.962*** | 19.28 |
| *Lev* | −1.776 | −1.57 | −0.716*** | −3.11 | 0.101 | 0.98 | −1.484 | −1.32 |
| *Roa* | 34.384*** | 17.93 | 2.632*** | 6.17 | 1.003*** | 5.27 | 33.994*** | 17.83 |
| *Indep* | −2.813 | −0.84 | 0.205 | 0.39 | 0.114 | 0.48 | −2.460 | −0.74 |
| *Top1* | 0.098*** | 4.65 | −0.001 | −0.13 | −0.002 | −1.05 | 0.094*** | 4.47 |
| *Duality* | −1.637*** | −4.91 | 0.105 | 1.57 | 0.096*** | 3.22 | −1.586*** | −4.79 |
| *Weak* | 1.887*** | 5.36 | 0.232*** | 4.12 | 0.048* | 1.90 | 2.044*** | 5.84 |
| *Big4* | 1.851 | 0.75 | −2.630*** | −9.94 | −2.768*** | −23.46 | 1.937 | 0.79 |
| *SOE* | −0.362 | −0.41 | −1.715*** | −8.08 | −1.736*** | −18.33 | −0.052 | −0.06 |
| *Year* | Yes | | Yes | | Yes | | Yes | |
| *Ind* | Yes | | Yes | | Yes | | Yes | |
| *N* | 5393 | | 5393 | | 5393 | | 5393 | |
| *adj. $R^2$* | 0.533 | | 0539 | | 0533 | | 0539 | |

$$Optimism_{i,t+1} = \alpha_0 + \alpha_1 Feature_{i,t} + \alpha_2 Controls_{i,t} + \sum Year + \sum Industry + \varepsilon \quad (4)$$

Among them, feature is the subdivided feature index of M&A comment letters, including Verify, Question, Multiple, Efficiency, Delay, and Word. Verify is 1 when an intermediary is required to reply to the comment letters; otherwise, it is 0. Question refers to the number of questions raised in the M&A comment letters. When a firm receives more than one M&A comment letter, Multiple is 1; otherwise, it is 0. Efficiency refers to the time interval between the receipt of a letter and the date of the letter for a certain M&A event. When the company delays the reply, Delay is 1; otherwise, it is 0. Word is the ratio of the number of words in the company's reply letter to the number of words in the M&A comment letters. The greater the value, the more detailed is the information. The explanatory variable in Table 18 is the analyst optimism bias smoothed by the year-end closing price, while the explanatory variable in Table 19 is the analyst optimism bias smoothed by the most recent closing price prior to the annual report.

Columns 2–7 in Table 18 list the regression results between the characteristics of M&A comment letters and analysts' optimism bias. Among them, Verify, Question, and Multiple are significantly negatively related to Optimism1 at the levels of 5 %, 10 %, and 1 %, respectively. This indicates that when the comment letters require the intermediary agency to give professional advice, the comment letters involve numerous questions, or the same M&A event is questioned several times, companies will pay more attention to the rectification of related problems and better reduce analyst optimism bias by revising the M&A report or improving the quality of information disclosure. Delay and Optimism are significantly negatively related to Optimism1 at the 5 % level, indicating that when a company delays reply to a letter, the more time and energy it invests in the process of responding to a letter of inquiry about M&A, and the more information it provides, the more optimistic bias of analysts can be reduced. The results in Table 19 are consistent with those presented in Table 18.

**Table 17**
Conflicts of Interest, M&A Comment Letters and Analysts' Optimism(Alternative Measures of Analysts' Optimism).

| *Dep.Var = Optimism* | *Optimism1* | | *Optimism1* | | *Optimism2* | | *Optimism2* | |
|---|---|---|---|---|---|---|---|---|
| | High | | Low | | High | | Low | |
| | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value |
| *Inquiry* | 0.758*** | 3.38 | −0.519 | −1.54 | 0.500** | 2.38 | −0.536 | −1.55 |
| *Post* | 0.134 | 1.15 | −0.316** | −2.13 | 0.129 | 1.19 | −0.268* | −1.77 |
| *Inquiry* Post* | −0.773** | −2.16 | 0.025 | 0.05 | −0.504** | −1.90 | −0.114 | −0.23 |
| *Size* | 2.571*** | 10.87 | 6.419*** | 24.82 | 2.412*** | 10.89 | 6.441*** | 24.36 |
| *Lev* | −7.906*** | −8.50 | 7.275*** | 6.85 | −8.674*** | −9.96 | 6.493*** | 5.98 |
| *Roa* | 22.928*** | 12.32 | 2.077 | 1.28 | 27.974*** | 16.06 | 2.362 | 1.43 |
| *Indep* | 6.295*** | 2.80 | −12.204*** | −4.96 | 2.844 | 1.35 | −10.746*** | −4.27 |
| *Top1* | 0.021 | 1.41 | −0.018 | −0.98 | 0.004 | 0.29 | −0.017 | −0.88 |
| *Duality* | 1.473*** | 4.73 | −2.329*** | −8.12 | 1.386*** | 4.76 | −2.319*** | −7.91 |
| *Weak* | 0.615** | 2.04 | −0.535** | −2.15 | 0.632** | 2.24 | −0.400 | −1.57 |
| *Big4* | 0.510 | 0.50 | 48.527*** | 36.08 | 0.519 | 0.54 | 48.705*** | 35.42 |
| *SOE* | −0.069 | −0.08 | 1.171 | 1.21 | −0.277 | −0.36 | 1.037 | 1.05 |
| *Year* | Yes | | Yes | | Yes | | Yes | |
| *Ind* | Yes | | Yes | | Yes | | Yes | |
| *N* | 3314 | | 3314 | | 3314 | | 3314 | |
| *adj. $R^2$* | 0.587 | | 0.671 | | 0.587 | | 0.671 | |

**Table 18**
The Influence of the Characteristics of M&A Comment Letters on Analysts' Optimism.

| Dep.Var = *Optimism* | *Optimism1* | *Optimism1* | *Optimism1* | *Optimism1* | *Optimism1* | *Optimism1* |
|---|---|---|---|---|---|---|
| *Verify* | −0.108** | | | | | |
| | (−2.51) | | | | | |
| *Question* | | −0.003* | | | | |
| | | (−1.87) | | | | |
| *Multiple* | | | −0.220*** | | | |
| | | | (−5.11) | | | |
| *Efficiency* | | | | −0.001 | | |
| | | | | (−0.93) | | |
| *Delay* | | | | | −0.053** | |
| | | | | | (−2.04) | |
| *Word* | | | | | | 0.001 |
| | | | | | | (0.14) |
| *Constant* | 0.5234* | 0.5256* | 0.4139 | 0.5217* | 0.5581* | 0.7838** |
| | (1.66) | (1.67) | (1.30) | (1.65) | (1.77) | (2.47) |
| *Controls* | Yes | Yes | Yes | Yes | Yes | Yes |
| *Year* | Yes | Yes | Yes | Yes | Yes | Yes |
| *Ind* | Yes | Yes | Yes | Yes | Yes | Yes |
| *N* | 1371 | 1371 | 1371 | 1371 | 1371 | 1371 |
| *adj. $R^2$* | 0.051 | 0.054 | 0.055 | 0.051 | 0.053 | 0.069 |

(2) The influence of the types of M&A inquiry questions on analysts' optimism.

In order to further explore the impact of different types of questions in M&A comment letters on analyst optimism bias, we categorize the contents of the queried questions, divide the questions into 10 categories. When the comment letter of the sample company involves the corresponding question type, the categorical variable of the question is 1; otherwise, it is 0. In order to pinpoint the regulatory concerns, a textual analysis of the content of the letters was conducted. The questions and concerns articulated in the letters were categorized into ten distinct thematic areas. We put 10 problem classification variables into the regression model, and the results are shown in Tables 20 and 21. RT, Price, Commitment, and Risk are significantly negatively related to Optimism, respectively, indicating that when the issues pointed out by the exchange involve related transactions, M&A pricing, performance commitment, and risk status, it can reduce analysts' optimism bias. This may be because, when the above-mentioned questions are involved in the mergers and acquisitions (M&A) comment letters, the inhibition effect of the comment letters on market optimism will be more significant, thus reducing the optimism bias. Furthermore, analysts face greater external reputation pressure when tracking mergers and reorganization companies with the above-mentioned questions. To maintain their own reputations, analysts will disclose information more objectively and reduce optimism bias.

(3) Star analysts, M&A comment letters, and analysts' earnings forecast optimism bias.

Prior studies have shown that star analysts outperform non-star analysts in terms of information access, especially access to private

**Table 19**
The Influence of the Characteristics of M&A Comment Letters on Analysts' Optimism.

| Dep.Var = *Optimism* | *Optimism2* | *Optimism2* | *Optimism2* | *Optimism2* | *Optimism2* | *Optimism2* |
|---|---|---|---|---|---|---|
| *Verify* | −0.109** | | | | | |
| | (−2.50) | | | | | |
| *Question* | | −0.004* | | | | |
| | | (−1.87) | | | | |
| *Multiple* | | | −0.221*** | | | |
| | | | (−5.11) | | | |
| *Efficiency* | | | | −0.001 | | |
| | | | | (−0.93) | | |
| *Delay* | | | | | −0.057** | |
| | | | | | (−2.04) | |
| *Word* | | | | | | 0.000 |
| | | | | | | (0.14) |
| *Constant* | 0.5234* | 0.5256* | 0.4139 | 0.5217* | 0.5581* | 0.7838** |
| | (1.66) | (1.67) | (1.30) | (1.65) | (1.77) | (2.47) |
| *Controls* | Yes | Yes | Yes | Yes | Yes | Yes |
| *Year* | Yes | Yes | Yes | Yes | Yes | Yes |
| *Ind* | Yes | Yes | Yes | Yes | Yes | Yes |
| *N* | 1371 | 1371 | 1371 | 1371 | 1371 | 1371 |
| *adj.* $R^2$ | 0.051 | 0.054 | 0.055 | 0.051 | 0.053 | 0.069 |

information (Clement, 1999; Xu et al., 2013). M&A comment letters often involve information that was not previously disclosed to the public. When the incremental information contained in M&A comment letters is disclosed, the information advantage of star analysts declines. Therefore, the disclosure of M&A comment letters is expected to be more helpful in improving the forecast quality of firms followed by a lower percentage of star analysts than that of firms followed by a higher percentage of star analysts. The authors should split the sample into a group followed by a higher percentage of star analysts and a group followed by a lower percentage of star analysts to test the results. To test the relationship between star analysts, M&A comment letters, and analysts' earnings forecast optimistic bias, we divide firms into a group followed by a higher percentage of star analysts and a group followed by a lower percentage of star analysts to test the results. The results are shown in Tables 22. This means that, the disclosure of M&A comment letter is more helpful in decreasing the optimism bias of analysts' forecasts for firms followed by fewer star analysts.

## 6. Conclusion

This study focuses on publicly listed companies engaged in mergers and acquisitions (M&A) activities spanning the years 2014 to 2018. We show that the M&A comment letters are observed to substantially mitigate the optimistic deviation in analysts' earnings forecasts. This underscores the significance of M&A comment letters in shaping a more accurate and balanced representation of financial expectations during the M&A process. Further analysis reveals that the inhibitory effect of M&A comment letters on analysts' earnings forecasts' optimism bias is particularly pronounced in subsamples characterized by higher market sentiment and more pronounced conflicts of interest. Additionally, an examination of the content of M&A comment letters indicates that when these letters mandate the issuance of professional verification opinions by intermediaries, a greater number of questions are posed, inquiries are repeated, and delays in the company's response letter are observed. These findings suggest that stronger supervision, as indicated by the characteristics of M&A comment letters, correlates with a more substantial reduction in analyst optimism bias. Moreover, when M&A comment letters encompass aspects such as related transactions, M&A pricing, performance commitments, and risk status, analysts' optimism bias is effectively mitigated. In conclusion, this paper underscores the positive benefits of the M&A comment letters on analysts' earnings forecasting behavior. It emphasizes that the nature and types of questions posed in the M&A comment letters are crucial determinants of their effectiveness.

The findings of this paper carry significant policy implications. First, in the stage of comprehensive transition economy, exchanges have played a pivotal role in fostering the sound development of the capital market. This has been achieved to a certain extent through the regulatory framework of comment letters pertaining to mergers and acquisitions.The implementation of front-line supervision on mergers and acquisitions and reorganizations should focus on related party transactions, M&A pricing, performance commitments and risk conditions, strengthen supervision and expand the scope of supervision. Second, our results are helpful to fully understand the earnings forecasting behavior of analysts in the capital market, and relevant departments should establish appropriate restraint mechanisms for analysts to enhance their independence and prevent them from being swayed by investor sentiment and conflicts of interest. Third, as a front-line regulatory department, the exchange can use M&A comment letters, a non-penalty supervision, impacts the analysts' optimism, particularly in emerging markets like China.

## CRediT authorship contribution statement

**Liangyong Wan:** Conceptualization, Funding acquisition. **Chen Li:** Data curation. **Rui Xu:** Funding acquisition, Writing – original draft. **Hao Zhang:** Funding acquisition, Methodology.

**Table 20**
The Influence of the Types of M&A Inquiry Questions on Analysts' Optimism.

| *Dep.Var = Optimism* | *Optimism1* | *Optimism1* | *Optimism1* | *Optimism1* | *Optimism1* | *Optimism1* | *Optimism1* | *Optimism1* | *Optimism1* | *Optimism1* |
|---|---|---|---|---|---|---|---|---|---|---|
| *Inter_gov* | −0.005 | | | | | | | | | |
| | (−1.28) | | | | | | | | | |
| *Exter_gov* | | −0.003 | | | | | | | | |
| | | (−0.85) | | | | | | | | |
| *Accounting* | | | −0.001 | | | | | | | |
| | | | (−0.65) | | | | | | | |
| *Rt* | | | | −0.005* | | | | | | |
| | | | | (−1.71) | | | | | | |
| *Price* | | | | | −0.003* | | | | | |
| | | | | | (−1.80) | | | | | |
| *Rafa* | | | | | | −0.001 | | | | |
| | | | | | | (−0.43) | | | | |
| *Commitment* | | | | | | | −0.003* | | | |
| | | | | | | | (−1.75) | | | |
| *Trade* | | | | | | | | −0.001 | | |
| | | | | | | | | (−0.22) | | |
| *Operation* | | | | | | | | | −0.002 | |
| | | | | | | | | | (−0.38) | |
| *Risk* | | | | | | | | | | −0.010** |
| | | | | | | | | | | (−1.98) |
| *Controls* | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| *Year* | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| *Ind* | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| *N* | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 |
| *Adj. $R^2$* | 0.006 | 0.005 | 0.005 | 0.007 | 0.005 | 0.004 | 0.006 | 0.004 | 0.004 | 0.008 |

**Table 21**
The Influence of the Types of M&A Inquiry Questions on Analysts' Optimism.

| *Dep.Var = Optimism* | *Optimism2* | *Optimism2* | *Optimism2* | *Optimism2* | *Optimism2* | *Optimism2* | *Optimism2* | *Optimism2* | *Optimism2* | *Optimism2* |
|---|---|---|---|---|---|---|---|---|---|---|
| *Inter_gov* | −0.006 | | | | | | | | | |
| | (−1.28) | | | | | | | | | |
| *Exter_gov* | | −0.003 | | | | | | | | |
| | | (−0.85) | | | | | | | | |
| *Accounting* | | | −0.002 | | | | | | | |
| | | | (−0.65) | | | | | | | |
| *Rt* | | | | −0.005* | | | | | | |
| | | | | (−1.75) | | | | | | |
| *Price* | | | | | −0.003* | | | | | |
| | | | | | (−1.82) | | | | | |
| *Rafa* | | | | | | −0.001 | | | | |
| | | | | | | (−0.43) | | | | |
| *Commitment* | | | | | | | −0.003* | | | |
| | | | | | | | (−1.77) | | | |
| *Trade* | | | | | | | | −0.001 | | |
| | | | | | | | | (−0.22) | | |
| *Operation* | | | | | | | | | −0.001 | |
| | | | | | | | | | (−0.38) | |
| *Risk* | | | | | | | | | | −0.010** |
| | | | | | | | | | | (−2.00) |
| *Controls* | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| *Year* | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| *Ind* | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| *N* | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 | 1050 |
| *Adj. $R^2$* | 0.006 | 0.005 | 0.005 | 0.007 | 0.005 | 0.004 | 0.006 | 0.004 | 0.004 | 0.008 |

**Table 22**
Star analysts, M&A Comment Letters and Analysts' Optimism.

| *Dep.Var = Optimism* | *Optimism1* | | *Optimism1* | | *Optimism2* | | *Optimism2* | | |
|---|---|---|---|---|---|---|---|---|---|
| | Non-star analyst | | Star analyst | | Non-star analyst | | Star analyst | | |
| | Coeff. | T-value | Coeff. | T-value | Coeff. | T-value | Coeff. | | T-value |
| *Inquiry* | 0.003** | 2.19 | −0.000 | −0.39 | 0.003** | 2.11 | −0.000 | | −0.20 |
| *Post* | 0.001 | 1.02 | 0.000 | 0.29 | 0.001 | 1.13 | 0.000 | | 0.09 |
| *Inquiry* Post* | −0.007*** | −2.89 | 0.004 | 0.77 | −0.069*** | −2.19 | 0.002 | | 0.95 |
| *Size* | 0.021*** | 10.57 | 0.044*** | 4.23 | 0.022*** | 11.53 | 0.003*** | | 3.53 |
| *Lev* | 0.006 | 1.52 | 0.044 | 1.02 | 0.026 | 1.45 | 0.017* | | 1.84 |
| *Roa* | 0.576*** | 67.96 | 0.416*** | 35.11 | 0.529*** | 84.55 | 0.311*** | | 35.11 |
| *Indep* | −0.063*** | −6.04 | 0.004 | 0.52 | −0.051*** | −5.85 | 0.011 | | 0.06 |
| *Top1* | 0.000*** | 3.29 | −0.000 | −0.11 | 0.002*** | 3.57 | −0.001 | | −1.16 |
| *Duality* | 0.001 | 1.41 | −0.003*** | −4.11 | 0.022* | 1.70 | −0.004*** | | −4.12 |
| *Weak* | −0.004*** | −4.22 | −0.005*** | −4.13 | −0.015*** | −4.10 | −0.017*** | | −4.92 |
| *Big4* | 0.007** | 2.33 | 0.009* | 1.79 | 0.016** | 2.24 | −0.002 | | −0.21 |
| *SOE* | −0.002 | −0.52 | −0.005 | −1.48 | −0.013 | −0.69 | −0.006 | | −1.52 |
| *Year* | Yes | | Yes | | Yes | | Yes | | |
| *Ind* | Yes | | Yes | | Yes | | Yes | | |
| *N* | 3590 | | 7178 | | 3590 | | 7178 | | |
| *adj. R2* | 0.533 | | 0539 | | 0533 | | 0539 | | |

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## References

Baker, M., Wurgler, J., 2006. Investor sentiment and the cross-section of stock returns. J. Financ. 61, 1645–1680.
Barron, O.E., Byard, D., Yu, Y., 2008. Earnings surprises that motivate analysts to reduce average forecast error. Account. Rev. 83, 303–325.
Barron, O.E., Byard, D., Yu, Y., 2017. Earnings announcement disclosures and changes in analysts' information. Contemp. Account. Res. 34, 343–373.
Bens, D.A., Cheng, M., Neamtiu, M., 2016. The impact of SEC disclosure monitoring on the uncertainty of fair value estimates. Account. Rev. 91, 349–375.
Bozanic, Z., Dietrich, J.R., Johnson, B.A., 2017. SEC comment letters and firm disclosure. J. Account. Public Policy 36, 337–357.
Brown, S.V., Tian, X., Wu, T.J., 2018. The Spillover effect of SEC comment letters on qualitative corporate disclosure: evidence from the risk factor disclosure. Contemp. Account. Res. 35, 622–656.
Chaney, P.K., Hogan, C.E., Jeter, D.C., 1999. The effect of reporting restructuring charges on Analysts' forecast revisions and errors. J. Account. Econ. 27, 261–284.
Chen, W., Hu, N., Zhao, X., 2022. Information asymmetry, regulatory inquiry, and company mergers and acquisitions: evidence from Shenzhen stock exchange comment letters. Account. Finance 2, 2497–2542.
Cheng, Q., Du, F., Wang, X., Wang, Y., 2016. Seeing is believing: Analysts' corporate site visits. Rev. Acc. Stud. 21, 1245–1286.
Clement, M.B., 1999. Analyst forecast accuracy: Do ability, resources, and portfolio complexity matter? J. Account. Econ. 27, 285–303.
Dechow, P.M., Lawrence, A., Ryans, J.P., 2016. SEC comment letters and insider sales. Account. Rev. 91, 401–439.
Han, M., Ying, Q., Huang, L., 2023. Firms' delayed replies and investor confidence: Evidence from M&a comment letters in China. Financ. Res. Lett. 104125.
Heese, J., Khan, M., Ramanna, M., 2017. Is the SEC captured? Evidence from comment- letter reviews. J. Account. Econ. 64, 98–122.
Hirst, D.E., Hopkins, P.E., Wahlen, J.M., 2004. Fair values, income measurement, and bank analysts' risk and valuation judgments. Account. Rev. 79 (2), 454–472.
Hong, Y., Yao, Y., 2024. Can comment letters impact excess perks? Evidence from China. Int. Rev. Financ. Anal. 91, 102943.
Hu, N., Xu, J., Xue, S., 2022. Mandatory disclosure of comment letters and analysts' forecasts. Int. Rev. Financ. Anal. 84, 102426.
Jackson, A.R., 2005. Trade generation, reputation, and sell-side analysts. J. Financ. 60, 673–717.
Johnson, B.A., Lisic, L.L., Moon, J.S., Wang, M., 2023. SEC comment letters on form S- 4 and M&a accounting quality. Rev. Acc. Stud. 28, 862–909.
Johnston, R., Petacchi, R., 2017. Regulatory oversight of financial reporting: securities and exchange commission comment letters. Contemp. Account. Res. 34, 1128–1155.
Kadan, O., Madureira, L., Wang, R., Zach, T., 2012. Analysts' industry expertise. J. Account. Econ. 54 (2–3), 95–120.
Lim, T., 2001. Rationality and analysts' forecast bias. J. Financ. 56 (1), 369–385.
Lin, B., Yang, R., 2006. The effect of repeat restructuring charges on analysts' forecast revisions and accuracy. Rev. Quant. Finan. Acc. 27, 267–283.
Liu, T., Shu, T., Towery, E., Wang, J., 2024. The role of external regulators in mergers and acquisitions: evidence from SEC comment letters. Rev. Acc. Stud. 29, 451–492.
Malmendier, U., Shanthikumar, D., 2014a. Do security analysts speak in two tongues? Rev. Financ. Stud. 27, 1287–1322.
Mehran, H., Stulz, R.M., 2007. The economics of conflicts of interest in financial institutions. J. Financ. Econ. 8, 267–296.
O'brien, P.C., 1988. Analysts' forecasts as earnings expectations. J. Account. Econ. 10, 53–83.
Ryans, J., 2020. Textual classification of SEC comment letters. Rev. Account. Stud. 26, 37–80.
Sibilkov, V., Straska, M., Waller, H.G., 2013. Do firms use M&a Business to pay for analyst coverage? Finan. Rev. 48, 725–751.
Tehranian, H., Zhao, M., Zhu, J.L., 2014. Can analysts analyze mergers? Manag. Sci. 60, 959–979.
Xu, N., Chan, K.C., Jiang, X., Yi, Z., 2013. Do star analysts know more firm-specific information? Evidence from China. J. Bank. Financ. 37, 89–102.
Yang, S., 2023. Sunlight is the best disinfectant: real-time comment letters and large M&as in China. J. Int. Account. Res. 22 (1), 137–168.