

Blockholder exit threats and management tone manipulation: evidence from China

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Abstract

Purpose – This study empirically examines the relationship between the blockholder exit threats (ETs) and management tone manipulation, based on two competing hypotheses: the “governance hypothesis” and the “market pressure hypothesis.” The study aims to explore the impact and mechanisms of ETs on the quality of textual information disclosure.

Design/methodology/approach – This study uses ordinary least squares multivariate regressions on panel data from Chinese A-share listed companies spanning 2007 to 2022. Building on Huang *et al.* (2014), we construct a benchmark model of managerial tone and use its residuals to measure abnormal positive tone. Blockholder exit threat (ET), following Dou *et al.* (2018), is proxied by the interaction between stock liquidity and blockholder competition. To address endogeneity, we employ propensity score matching, the Heckman two-stage method and lagged models. Robustness checks include alternative variable definitions and different textual dictionaries.

Findings – The results show that external blockholder ETs significantly increase the degree of abnormal positive managerial tone, thereby supporting the market pressure hypothesis. Further analyses reveal that the positive association between ETs and abnormal positive tone is stronger in subsamples where managerial market pressure is higher, the level of blockholder expropriation is greater and insider trading is more prevalent – indicating a stronger collusion motive between external blockholders and management. Mechanism tests show that ETs manipulate managerial tone by increasing the sensitivity of managerial wealth to share price fluctuations.

Research limitations/implications – This study is limited to Chinese A-share listed companies, whose unique institutional and regulatory environment may restrict the generalizability of the findings to other markets. Differences in disclosure rules, legal enforcement and investor protection between China and developed economies suggest that the identified mechanisms may not apply universally. Additionally, our reliance on annual report narratives for measuring managerial tone may overlook other communication channels. Future research could extend the analysis to other market segments or countries and incorporate additional data sources to test the robustness and broader applicability of our conclusions.

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Practical implications – The results highlight the need for enhanced regulatory oversight of narrative disclosures to prevent managerial “window dressing” and mitigate information asymmetry. Regulators should strengthen cross-validation between financial and non-financial information and promote mechanisms that increase the cost and risk of blockholder–management collusion. Investors are advised to critically assess managerial tone and remain alert to overly optimistic language. Additionally, increased supervision of tunneling and insider trading, along with stronger legal protections for minority shareholders, is essential for fostering transparency and integrity in China’s capital markets and improving overall market quality.

Originality/value – This paper contributes to understanding the impact of external blockholder ETs on managerial tone manipulation in narrative disclosures from the perspective of ownership structure in China’s unique institutional environment. The findings of the study provide new insights into the governance role of blockholders and offer policy implications for improving information transparency and the healthy development of emerging capital markets.

Keywords Blockholder exit threats, Managerial tone manipulation, Market pressure

Paper type Research article

1. Introduction

Improving the quality of information disclosure by listed companies is crucial for protecting investors’ interests and enhancing the overall efficiency of capital markets. High-quality disclosure can effectively reduce information asymmetry and improve the accuracy of investors’ decision-making. In practice, information disclosure by listed companies primarily takes the form of standardized financial statements and non-standardized textual disclosures. Among various disclosure formats, the management discussion and analysis (MD&A) section represents the most important component of textual information disclosure. The MD&A disclosure regime was formally adopted by the China Securities Regulatory Commission in 2002, aiming to further enhance disclosure quality, strengthen investors’ understanding of firms’ current operations and future prospects and better meet the informational needs of market participants. Managerial tone, as one of the most salient aspects of textual disclosure, is characterized by rich connotations and extensive influence and has attracted increasing attention from both investors and academics. Managerial tone refers to the affective orientation conveyed in written disclosures, encompassing both optimism and pessimism (Feldman, Govindaraj, Livnat and Segal, 2010; Beretta, Demartini, Lico and Trucco, 2021). As the Chinese adage goes, “The meaning of words is understood through their tone, just as the quality of a gong is judged by its sound.” Tone can substantially shape recipients’ perceptions. Thus, the tone adopted by management in disclosures can significantly affect how investors interpret firm information (Feldman *et al.*, 2010; Loughran and McDonald, 2011).

From the incremental information perspective, managerial tone provides incremental, objective, and efficient communication to investors, thereby helping to mitigate information asymmetry (Tetlock, Saar-Tsechansky and Macskassy, 2008; Loughran and McDonald, 2011). In contrast, impression management theory suggests that managers may strategically adjust their tone to distort investors’ perceptions of firm performance (Beretta *et al.*, 2021), resulting in tone manipulation that causes disclosed affective content to deviate from its normative level (Iatridis, 2016; Yan, Hwang, Jung and Jung, 2024). Given the considerable discretion that management enjoys in preparing the MD&A, coupled with the inherent flexibility of textual information (Davis and Tama-Sweet, 2012; Marquez-Illescas, Zebede and Zhou, 2019), there is a substantial risk that managers may engage in opportunistic tone manipulation (Yan *et al.*, 2024). This underscores the importance of examining not only the content but also the tone of corporate disclosures in emerging markets.

A large body of prior research has focused on the antecedents and consequences of tone management in mature capital markets. In highly regulated environments such as the United States, where investor protection is robust, the U.S. Securities and Exchange Commission (SEC) strictly supervises corporate disclosures through 10-K and 10-Q filings (SEC, 2015), and class action litigation is well established (Rogers, Buskirk and Zechman, 2011). Consequently, managers in the USA face substantial legal risks when engaging in tone management [1]. Loughran and McDonald (2011) find that the use of negative language in

USA corporate disclosures provides significant early warning signals, reflecting the country's "disclose and be liable" regulatory culture. By contrast, China's institutional environment presents a markedly different picture. First, there is a lack of unified standards for textual disclosure (for example, the "Management Discussion and Analysis" section only requires principle-based reporting) [2]. Second, China only implemented a class action litigation mechanism for securities violations in 2020, in stark contrast to the mature system established by the USA Private Securities Litigation Reform Act (PSLRA) in 1995, resulting in weaker legal deterrence (Chen, 2022). Under these conditions, limited regulatory oversight and less stringent disclosure requirements afford managers greater discretion and flexibility in textual disclosures, thereby reducing the risk and cost associated with tone management (Huang and Liang, 2024; Yan *et al.*, 2024).

Prior studies have shown that managers often engage in tone management for strategic purposes, such as facilitating mergers and acquisitions, influencing analyst forecasts or facilitating insider trading to obscure opportunistic behavior (Rogers *et al.*, 2011; Huang *et al.*, 2014; Iatridis, 2016; Yan *et al.*, 2024). Furthermore, China's unique ownership structure and institutional environment have contributed to the increasing prevalence of managerial behaviors in which "words are cleverly decorated and actions are disobeyed," making tone manipulation an important means by which management conceals true information (Huang and Liang, 2024; Yan *et al.*, 2024; Xiong, Liu, Zhao and Xiao, 2024; Du and Tu, 2025). These institutional differences underscore the urgent need to understand how to enhance the quality and credibility of textual disclosures in emerging markets, making this a timely and important topic for further research.

Blockholders are typically defined as non-controlling shareholders who, after aggregating shares held by concerted parties, hold more than a certain threshold (commonly 5% or 10%) of a company's outstanding shares (Edmans, 2009). Due to their greater financial strength and informational advantages, external blockholders can exert a substantial influence on managerial behavior and thus affect the quality of corporate governance in listed companies (Admati and Pfleiderer, 2009; Edmans, 2009; Edmans and Manso, 2011). The pivotal role of external blockholders in capital markets has attracted considerable scholarly attention. Prior research on external blockholder participation in corporate governance has mainly focused on intervention mechanisms, namely the "voice" mechanism (Edmans and Manso, 2011). For instance, external blockholders may participate in governance by submitting shareholder proposals, obtaining board seats or replacing management (Shleifer and Vishny, 1986; Gillan and Starks, 2000). These actions can help mitigate information asymmetry (Edmans and Manso, 2011) and reduce agency costs (Attig, Guedhami and Mishra, 2008; Edmans and Manso, 2011; Edmans and Holderness, 2017). However, such intervention and monitoring by external blockholders are often associated with significant costs (Admati and Pfleiderer, 2009).

While the "voice" mechanism emphasizes direct intervention, recent literature has increasingly highlighted the importance of the "exit threat" (ET) as an alternative corporate governance mechanism for external blockholders (Admati and Pfleiderer, 2009; Edmans, 2009). Compared to intervention and direct monitoring, the ET – where blockholders "vote with their feet" by selling their shares – can be implemented more easily and at a lower cost (Hope, Wu and Zhao, 2017). By exiting, external blockholders send negative signals to the market about firm value, which, according to the semi-strong form of the efficient market hypothesis and signaling theory, are rapidly reflected in stock prices. Since managers' personal wealth and reputation are closely tied to stock price performance, they are highly attentive to such market signals. To avoid declines in share price triggered by blockholder exit, managers are incentivized to adjust their behavior and enhance corporate governance (Attig *et al.*, 2008; Edmans and Manso, 2011; Dou *et al.*, 2018).

Empirical research has demonstrated that the ET by external blockholders can mitigate agency conflicts (Admati and Pfleiderer, 2009; Edmans, 2009), reduce opportunistic behavior by controlling shareholders and managers (Bharath, Jayaraman and Nagar, 2013), improve

firm performance (Bharath *et al.*, 2013; Hope *et al.*, 2017) and enhance the quality of financial reporting (Dou *et al.*, 2018). The aforementioned studies consistently demonstrate the positive governance effects of external blockholder ETs; most of this evidence is drawn from developed capital markets such as the United States of America. In-depth investigations of the unique institutional features of emerging markets, particularly China, remain scarce. Unlike developed markets, China's capital market is characterized by a highly concentrated ownership structure, with dominant shareholders being commonplace. These large shareholders are often found to display short-term speculative behavior and frequent tunneling activities (Jiang and Kim, 2015; Wong, 2016; Jiang, Ma and Wang, 2020). Additionally, the legal environment and regulatory oversight in China are still developing, resulting in relatively low costs for disclosure violations (Wong, 2016; Chen, 2022). Under these circumstances, firms with poor performance are more likely to face the exit of external blockholders, which greatly intensifies the performance pressure on managers (Admati and Pfleiderer, 2009; Edmans, 2009).

Given this context, a critical question arises: To prevent blockholder exit, do managers resort to strategic tone management – such as overstating performance or concealing negative news – to send optimistic signals and retain large shareholders? According to collusion theory, when external blockholders perceive that cooperating with insiders can maximize their own interests, they may form alliances with management to pursue mutual benefits (Pound, 1988). In such cases, external blockholders not only fail to serve a governance function but may even collude with management to extract private benefits (Pound, 1988). Prior evidence also indicates that external blockholders may exhibit myopic behavior, focusing on short-term returns at the expense of long-term firm value (Graves and Waddock, 1990). For example, Jiang and Kim (2015) demonstrate that greater shareholder short-termism leads managers to disclose more good news and withhold bad news, while Cheng, Liu and Zhang (2020) find that collusion between external blockholders and management can facilitate accrual manipulation and reduce the reliability of financial reporting.

Building on this context, two competing hypotheses are proposed: the “governance hypothesis,” which posits that ETs from external blockholders can constrain managerial tone management, and the “market pressure hypothesis,” which suggests that ETs may instead induce tone management through collusion or pressure on managers. This study investigates managerial abnormal positive tone by decomposing it into normal and abnormal components, following the benchmark model developed by Huang *et al.* (2014). In this approach, normal tone reflects firm fundamentals and is captured by the model's fitted values, while abnormal tone – measured as the model residual – represents tone management that is not justified by the firm's actual performance. Unlike in some developed markets where positive tone may reflect true improvements in performance (Admati and Pfleiderer, 2009; Edmans, 2009), the weak regulatory oversight and high managerial discretion over textual disclosures in China mean that abnormal positive tone is more likely to signal opportunistic manipulation rather than genuine value creation (Huang and Liang, 2024; Yan *et al.*, 2024).

Using a sample of A-share listed companies in China from 2007 to 2022, this study empirically examines the relationship between external blockholder ET and managerial abnormal positive tone, drawing on the governance and market pressure hypotheses. The results reveal a significant positive association between the ET of external blockholders and managerial abnormal positive tone, supporting the market pressure hypothesis. Further analysis shows that this positive relationship is more pronounced in firms facing higher market pressure, with more severe tunneling by external blockholders and greater prevalence of insider trading – setting in which the incentive for collusion between blockholders and management is stronger. Mechanism analysis further indicates that ETs to the sensitivity of managerial wealth to stock prices, thereby encouraging managers to engage in more abnormal positive tone manipulation.

This paper makes the following key contributions. *First*, it enriches the theoretical understanding of the determinants of managerial tone manipulation in emerging capital markets by highlighting a market pressure channel. Unlike prior literature that has primarily

focused on financial performance (such as earnings growth and earnings management) and managerial characteristics (e.g. gender, age, professional background and personality) as drivers of tone management (Davis and Tama-Sweet, 2012; Iatridis, 2016; Marquez-Illescas *et al.*, 2019; Bassyouny, Abdelfattah and Tao, 2020), our research emphasizes the role of external blockholders' ETs as a form of market pressure that intensifies managerial tone manipulation. Considering the significant differences between China and mature markets in disclosure norms, legal environments and ownership concentration (Jiang and Kim, 2015; Chen, Li, Kang and Yang, 2024), the ET of external blockholders may exert a more complex and distinctive influence on managerial disclosure behavior – specifically by creating substantial market pressure that intensifies managerial tone manipulation. By systematically examining this market pressure mechanism in the context of listed Chinese firms, we extend the theoretical framework of tone management determinants and provide new empirical evidence on how market-driven forces shape corporate disclosure behavior in emerging markets.

Second, this study provides new evidence on the role of ETs in the context of China's unique institutional environment. While Dou *et al.* (2018), drawing on the theory that ETs enhance manager–shareholder alignment, find that ETs improve financial reporting quality through stronger shareholder governance, their research focuses on the USA market. In China, with its high ownership concentration, pronounced investor short-termism, greater concern with trading spreads and frequent tunneling (Aharony, Wang and Yuan, 2010; Jiang and Kim, 2020), whether ETs have similar governance effects remains unclear. Addressing the call by Hope *et al.* (2017), our study empirically examines the impact of external blockholder ETs on managerial tone manipulation in China. We find that such ETs lead to significant market pressure on managers, intensifying their short-term orientation and leading to a more abnormally positive disclosure tone. This effect is stronger where market pressure, tunneling incentives and insider trading are more pronounced. Under these conditions, tone manipulation becomes a strategic tool for managers responding to blockholder exit pressure. Our study is the first to reveal a “governance paradox” of ETs in China: in an emerging market with concentrated ownership and severe short-termism, ETs may actually heighten short-term pressure and induce manipulation of non-financial disclosures. This finding fills a gap in the literature on the effects of external blockholder ETs in emerging markets and provides contextual insights for the “exit versus voice” debate in emerging markets.

Third, this study advances the literature on the impact of blockholders on financial reporting quality by incorporating the perspective of textual non-financial disclosures. Jiang *et al.* (2020) highlight that multiple blockholders in China may exacerbate earnings management due to free-rider problems, focusing mainly on financial statement manipulation. In contrast, our research shifts the focus to non-financial information manipulation – specifically, the tone of narrative disclosures – which constitutes a substantial portion of financial reports and falls under significant managerial discretion. In China, this discretion is further amplified by the principle-based MD&A regime and minimal litigation exposure, giving managers broad latitude over narrative disclosures. Unlike USA firms, which face stricter MD&A rules and higher litigation risk, Chinese managers can vary tone with little legal fear. This unique institutional context not only makes China an ideal setting to explore how blockholder pressures shape disclosure practices but also highlights why tone manipulation can become a preferred strategy for managers. Compared to earnings management, tone manipulation is subtler, entails lower legal risk and is more difficult to detect (Loughran and McDonald, 2011; Marquez-Illescas *et al.*, 2019), making it an alternative for managers when earnings management is constrained. By extending the analysis of blockholder influence from financial to textual disclosures, this study enriches our understanding of how blockholder behavior may shape the overall quality of corporate reporting. Our findings provide new evidence of potential collusion between external blockholders and management and offer policy implications for regulators aiming to optimize disclosure systems and establish effective cross-verification mechanisms between financial and non-financial information.

2. Theoretical analysis and hypothesis development

While prior research from developed markets (e.g. [Admati and Pfleiderer, 2009](#); [Edmans, 2009](#)) suggests that blockholder ETs may improve governance by incentivizing managers to enhance operating performance – potentially leading to more optimistic disclosures – this mechanism is less likely in the Chinese context. In China, the regulatory oversight of narrative disclosures is weak and managerial discretion over disclosure tone is high ([Yan et al., 2024](#); [Huang and Liang, 2024](#)). As a result, abnormal positive tone is much more likely to reflect opportunistic manipulation by managers seeking to mask poor performance or extract private benefits, rather than genuine improvements in firm fundamentals. Empirical evidence from China confirms that such abnormal optimism is frequently followed by negative market outcomes, such as stock price crashes, rather than by sustained performance improvements ([Huang and Liang, 2024](#); [Marquez-Illescas et al., 2019](#)). To guard against confounding effects, our empirical analysis controls for actual performance, ensuring that abnormal tone is interpreted as discretionary manipulation. This distinction is crucial for understanding the unique governance dynamics in emerging markets and for interpreting our findings. Therefore, in the context of China, we interpret managerial abnormal positive tone primarily as an indicator of strategic manipulation that may harm investor welfare, rather than as a sign of improved governance.

Building on the preceding analysis, external blockholders may serve either a governance function or engage in collusion with management. Accordingly, drawing from governance theory and collusion theory, this study develops its core hypotheses concerning the effect of external blockholder ETs on managerial tone manipulation from the perspectives of the “governance hypothesis” and the “market pressure hypothesis.” It is noteworthy that these two mechanisms – the governance effect and the market pressure effect – are not mutually exclusive. Depending on the institutional and market context, one mechanism may dominate or both may operate simultaneously. Thus, the overall impact of external blockholder ETs on managerial tone manipulation is ultimately an empirical question, motivating the investigation of both hypotheses in this study.

2.1 Blockholder exit threats and managerial tone manipulation based on governance effect

The governance effect posits that external blockholders have both strong incentives and substantial capacity to participate in corporate governance ([Gillan and Starks, 2000](#); [Attig et al., 2008](#); [Helwege, Intintoli and Zhang, 2012](#)). Due to their significant shareholdings and heightened sensitivity to changes in firm value, external blockholders are more motivated than minority shareholders to actively monitor management and safeguard their interests, thereby helping to restrain managerial opportunism ([Admati and Pfleiderer, 2009](#); [Edmans, 2009](#)). By engaging in governance, external blockholders can enhance firm value and realize gains that typically exceed their monitoring costs ([Shleifer and Vishny, 1986](#)). Their considerable voting power further enables them to exert effective influence over corporate decisions ([Gillan and Starks, 2000](#); [Attig et al., 2008](#); [Helwege et al., 2012](#)).

First, managers may have incentives to engage in window dressing of financial statements and strategic disclosure to obfuscate self-serving behaviors, aiming to safeguard their positions and reputations ([Francis, Huang, Rajgopal and Zang, 2008](#)), facilitate insider trading ([Cheng and Lo, 2006](#); [Ahern, 2017](#)) or extract option value ([Huang et al., 2014](#); [D’Augusta and DeAngelis, 2020](#)). Firms disclose both standardized financial information and non-standardized textual information. Compared to the manipulation of financial numbers (e.g. earnings management), which is subject to stricter regulatory scrutiny, the quantity and quality of textual disclosures are largely determined by managerial discretion ([Davis and Tama-Sweet, 2012](#); [Ernstberger and Grüning, 2013](#)). Prior studies suggest that national institutional characteristics, such as the regulatory environment, shape managerial discretion and thus influence the level of textual disclosure ([Francis, Khurana and Pereira, 2005](#); [Ernstberger and Grüning, 2013](#)).

In the current Chinese institutional context – characterized by limited regulatory oversight of textual tone and substantial managerial discretion in narrative disclosures (Yan *et al.*, 2024; Huang and Liang, 2024) – the cost and risk of tone manipulation are greatly reduced (D’Augusta and DeAngelis, 2020; Yan *et al.*, 2024). Consequently, when earnings management is constrained, tone manipulation is more likely to become a substitute tool for managers’ opportunistic behaviors (Li, 2008; Yan *et al.*, 2024). Such tone manipulation, especially when driven by private benefit motives such as insider trading or option value extraction, directly undermines investor interests (Huang and Liang, 2024).

On the one hand, although managers may seek to influence investors’ perceptions of the firm’s future prospects through tone management, the underlying reality is that an optimistic tone often reflects actions detrimental to corporate interests (Marquez-Illescas *et al.*, 2019). On the other hand, even if tone management is not intended to conceal private benefits but is used to exaggerate positive performance and results in an abnormally optimistic tone, the subsequent accumulation and eventual revelation of negative news inconsistent with prior optimistic disclosures can trigger stock price crashes and harm investors (Huang and Liang, 2024) [3]. As Marquez-Illescas *et al.* (2019) demonstrate, chief executive officers (CEOs) inflating the tone of their tone has a detrimental effect on shareholders’ wealth, similar to other behaviors such as misreporting of financial information.

Second, in order to protect their interests, external blockholders have both the incentive and the ability to discipline managerial opportunism through the threat of exit (Edmans, 2009; Hope *et al.*, 2017; Dou *et al.*, 2018). As informed traders with access to more inside information, external blockholders can identify when managerial tone manipulation is detrimental to their interests. Upon such detection, they may choose to exit by selling their shares, which sends negative signals to the market and results in stock price declines (Edmans, 2009; Bharath *et al.*, 2013; Hope *et al.*, 2017; Dou *et al.*, 2018). It is noteworthy that, under the current institutional context in China – where most listed companies implement equity incentive schemes – management holds a portion of the company’s shares. As a result, a decline in the stock price directly reduces management’s wealth (Hope *et al.*, 2017). To prevent such losses arising from external blockholders’ exit, management is incentivized to correct their behavior and restrain opportunistic actions, thereby reducing the degree of tone manipulation.

Based on the above analysis, this paper proposes **Hypothesis H1a**:

H1a. (Governance hypothesis) The greater the intensity of external blockholders’ exit threat, the lower the degree of managerial tone manipulation.

2.2 Blockholder exit threats and managerial tone manipulation based on market pressure effect

As previously discussed, the exit of external blockholders can trigger negative stock market reactions, resulting in sharp price declines and imposing significant market pressure on management (Edmans, 2009; Admati and Pfleiderer, 2009; Edmans and Manso, 2011). This pressure primarily stems from management’s concerns for personal interests, such as wealth, promotion and reputation (Chen, Lin and Yang, 2015). Under the current equity incentive schemes in China, managers’ wealth is directly tied to stock prices, so blockholder exit and the ensuing price drop directly erode management’s interests (Hope *et al.*, 2017). Moreover, according to the career concern hypothesis, poor stock performance can adversely affect managerial retention and promotion prospects (Hope *et al.*, 2017; Dou *et al.*, 2018). Additionally, a strong professional reputation enhances managers’ bargaining power in the labor market (Francis *et al.*, 2008), and implicit reputation incentives prompt managers to avoid stock price declines during their tenure (Hope *et al.*, 2017; Dou *et al.*, 2018).

Consequently, the threat of exit by external blockholders imposes substantial pressure on management, which may intensify short-term behaviors such as reduced R&D investment or

strategic disclosures, including earnings management (Graham, Harvey and Rajgopal, 2005; Gao and Zhang, 2019; Jiang and Xin, 2022). In China's current market environment – characterized by a high proportion of short-term investors, shorter holding periods for external blockholders and greater focus on trading gains – blockholders are more likely to exit when firm performance deteriorates (Wong, 2016; Hope *et al.*, 2017; Jiang and Kim, 2020). To mitigate potential losses from stock price declines following blockholder exit or to protect their positions and reputations, managers may resort to disclosing an excessively optimistic tone, thereby creating an appearance of robust performance, sending positive signals to external blockholders and reducing the likelihood of their exit (Jiang and Xin, 2022).

Compared to earnings management, tone manipulation entails lower costs and risks (Huang *et al.*, 2014; D'Augusta and DeAngelis, 2020; Yan *et al.*, 2024). Specifically, tone manipulation is more covert and allows greater discretion, as managers can release positive signals through optimistic language without altering financial data. In addition, the current legal and regulatory framework for textual disclosure in China is still underdeveloped, resulting in minimal penalties for tone manipulation (Yan *et al.*, 2024; Huang and Liang, 2024).

Therefore, under such conditions, tone manipulation is more likely to become a strategic disclosure tool for managers under the market pressure resulting from external blockholders' ETs. Based on this analysis, we propose *Hypothesis H1b*:

H1b. (Market pressure hypothesis) The greater the intensity of external blockholders' exit threat, the higher the degree of managerial tone manipulation.

3. Research design

3.1 Sample selection and data sources

This study selects all A-share listed companies on the Shanghai and Shenzhen stock exchanges from 2007 to 2022 as the initial sample. The starting year 2007 is chosen to ensure data consistency and comparability following the completion of the split-share structure reform and the implementation of new accounting standards in China [4].

Based on the initial sample, we further apply the following selection criteria: (1) exclude firms in the financial industry; (2) exclude special treatment firms; (3) exclude firms without external blockholders and (4) remove observations with missing values for main variables. After applying these criteria, the final sample comprises 36,116 firm-year observations across 4,041 unique listed firms.

Data on external blockholders – including shareholder names, shareholding ratios and information on parties acting in concert – are obtained from the RESSET database (www.resset.com). Considering that parties acting in concert exhibit aligned interests and behaviors in corporate governance, we manually consolidate the shareholding ratios of shareholders identified as parties acting in concert according to the explanations provided by the RESSET database, subsequently identifying external blockholders according to established criteria. Data on managerial tone were obtained from the Annual Report Textual Disclosure database provided by the China Research Data Service Platform (CNRDS). Other financial and control variables were sourced from the China Stock Market & Accounting Research database.

3.2 Variable definitions

3.2.1 *Dependent variable* [5]. *Abnormal positive managerial tone (AbTone)*. Abnormal positive managerial tone refers to the component of textual sentiment that deviates from the expected sentiment level based on firm fundamentals and reflects management's strategic choices in disclosure. Following Huang *et al.* (2014) and D'Augusta and DeAngelis (2020), we decompose the overall managerial tone (*Tone*) into normal tone (*Ntone*, which is driven by

firm fundamentals) and abnormal tone (*AbTone*, which does not reflect objective expectations of firm performance). The decomposition model is specified as follows:

$$Tone_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 Ret_{it} + \beta_3 Size_{it} + \beta_4 MV_{it} + \beta_5 Std_Ret + \beta_6 Std_ROA_{it} + \beta_7 Age_{it} + \beta_8 Loss_{it} + \beta_9 \Delta ROA_{it} + \delta_{it} + \gamma_{pt} + \epsilon_{it} \quad (1)$$

In this model, *Tone* (net tone) is measured following Loughran and McDonald (2011) as the difference between the number of positive and negative words in the annual report, divided by the total number of words. For robustness checks, we also adopt the approach of Yan et al. (2024), defining tone as the difference between the number of positive and negative words divided by the sum of positive and negative words. The identification of positive and negative words is based on the financial sentiment dictionary developed by Loughran and McDonald (2011). The Chinese version of this dictionary is constructed by translating the English terms using authoritative sources such as Youdao and Kingsoft dictionaries. Unlike Zeng, Zhou, Zhang and Chen (2018), who retain multiple Chinese translations for a single English word, the CNRDS database retains only the Chinese word that most closely matches the sentiment of the original English term. The final lexicon consists of 2,080 negative words and 1,076 positive words [6].

Ret is defined as the 12-month buy-and-hold stock return.

MV is the natural logarithm of the year-end market capitalization.

Std_Ret denotes the standard deviation of monthly stock returns over the year.

Std_Roa is the standard deviation of the return of the assets (ROA) over the past five years.

Loss is a dummy variable equal to 1 if net profit in the current year is less than in the previous year and 0 otherwise.

ΔROA represents the change in ROA from period $t-1$ to period t .

Other variables are defined as in Table 1.

Industry-year and province-year fixed effects are included in the model.

The residual term (ϵ), which is not explained by the above variables, is defined as abnormal managerial tone (*AbTone*) in this study. This component does not reflect objective expectations about the company's current performance or future prospects and is interpreted as the result of managerial tone manipulation.

3.2.2 Independent variable. Blockholder exit threat (ET). Following the approach of Dou et al. (2018), *ET* is proxied by the interaction between stock liquidity (*TURNOVER*) and blockholder competition (*BHCOMP*). The calculation of *ET* is as follows:

$$ET_{it} = TURNOVER_{it} \times BHCOMP_{it} \quad (2)$$

where $TURNOVER_{it}$ is the average daily turnover rate of tradable shares for firm i in year t , serving as a proxy for stock liquidity. $BHCOMP_{it}$ captures blockholder competition for firm i in year t and is calculated as follows:

$$BHCOMP_{it} = - \sum_{k=1}^N \left(\frac{Block_{kit}}{Block_{it}} \right)^2 \quad (3)$$

where $Block_{kit}$ is the percentage of shares held by blockholder k in firm i at year t , and $Block_{it}$ is the total percentage of shares held by all blockholders in firm i at year t . A higher sum of squared blockholder ownership shares indicates greater ownership concentration and thus lower competition. By multiplying the Herfindahl Index by minus one, a higher value of *BHCOMP* indicates greater competition among blockholders and, consequently, a stronger ET.

Consistent with Hope et al. (2017) and Dou et al. (2018), outside blockholders are defined as non-managerial and non-family shareholders holding at least 5% of shares. In robustness

Table 1. Definitions of the variables

Type of variable	Variable name	Variable symbol	Definitions
Dependent variable	Management tone manipulation	<i>AbTone</i>	The net value of the residual term of the model (1)
Independent variable	Exit threat	<i>ET</i>	The interaction between blockholder competition and stock liquidity
Control variables	Company size	<i>Size</i>	The natural logarithm of the total assets at the year end
	Solvency	<i>Lev</i>	Total debt at year end/Total asset at year end
	Profitability	<i>ROA</i>	The return on assets, net income divided by average total assets
	Operating cash flow	<i>OCF</i>	The amount of operating cash flow deflated by lagged total assets
	Company growth	<i>Growth</i>	Increase of main business income in this period/ Main business income of last year
	Accrual surplus management	<i>DA</i>	Manipulable accrual profits calculated from the Modified Jones Model and taken in absolute terms
	book-to-market ratio	<i>BM</i>	Total assets/market value
	Company age	<i>Age</i>	The natural logarithm of the number of years a firm has been listed on the Shenzhen and Shanghai stock exchanges
	Proportion of independent directors	<i>Dir</i>	The percentage of independent directors on the board
	Duality	<i>Dual</i>	A dummy variable that equals 1if the chairman is also the general manager, and 0 otherwise
	Shareholding ratio of the largest shareholder	<i>Top1</i>	Number of shares held by the largest shareholder/ total share capital
	Shareholding ratio of institutional investors	<i>Inst</i>	Number of shares held by institutional investors/ total share capital
	Whether the four major audits	<i>Big4</i>	A dummy variable that equals 1 if it is audited by the four major accounting firms, and 0 otherwise
	Annual-fixed effects	<i>Year</i>	Annual-fixed effects
Industry-fixed effect	<i>Industry</i>	Industry-fixed effect	

Note(s): This table provides the names, symbols and definitions of the main variables used in this study. The specific calculation methods and sources for explanatory and control variables are detailed in the *definitions* column

Source(s): Table by authors

checks, we alternatively use a 10% ownership threshold to define outside blockholders and re-estimate the results.

3.2.3 Control variables. In line with [Huang et al. \(2014\)](#) and [D’Augusta and DeAngelis \(2020\)](#), we control for a set of variables that prior literature has identified as determinants of managerial abnormal positive tone. Specifically, we include firm size (*Size*), leverage (*Lev*), profitability (*ROA*), operating cash flow (*OCF*), firm growth (*Growth*), discretionary accruals (*DA*), book-to-market ratio (*BM*), proportion of independent directors (*Dir*), CEO-chairman duality (*Dual*), ownership of the largest shareholder (*Top1*), institutional ownership (*Inst*) and Big 4 auditor (*Big4*). Year- and industry-fixed effects are also included. Definitions and detailed descriptions of all variables are provided in [Table 1](#).

3.3 Empirical model

Following [Dou et al. \(2018\)](#), to investigate the effect of outside blockholder ET to managerial tone management, we estimate the following regression model:

$$AbTone_{it} = \beta_0 + \beta_1 ET_{it} + \beta_2 Controls_{it} + \sum Year + \sum Industry + \varepsilon_{it} \quad (4)$$

where *AbTone* denotes the degree of abnormal positive managerial tone, measured as the residual from model (1). A higher value indicates greater abnormal optimism in tone. *ET* is the blockholder exit threat, measured as the interaction term between stock liquidity and the degree of external blockholder competition. A higher value of *ET* indicates a stronger level of exit threat.

Unlike [Dou et al. \(2018\)](#), we do not include the main effects of *BHCOMP* and *TURNOVER* in our regression model. This modeling choice reflects our core theoretical focus on the *ET*, which is captured by the interaction between *BHCOMP* and *TURNOVER* rather than their independent effects. In addition, our comprehensive set of control variables already accounts for the main effects to a large extent. Moreover, methodological literature (e.g. [Aiken, West and Reno, 1991](#); [Brambor, Clark and Golder, 2006](#)) suggests that when the interaction term is of primary interest and there is substantial collinearity with its constituent variables, it is appropriate to retain only the interaction term in the model [7].

Controls comprise the set of control variables listed in [Table 1](#). Year- and industry-fixed effects are included. Our primary focus is on the coefficient β_1 . A significantly negative β_1 supports the governance hypothesis, while a significantly positive β_1 supports the market pressure hypothesis proposed in this study.

4. Empirical analysis

4.1 Descriptive statistical analysis

Panel A of [Table 2](#) presents the annual distribution of our sample from 2007 to 2022. Overall, the sample size increases steadily over the years, with a notable growth in recent years. In particular, the sample size reaches 3,803 in 2022, accounting for 10.53% of the total observations. Across the entire sample period, there were 36,116 firm-year observations in total. The distribution is relatively balanced, providing a solid foundation for the subsequent empirical analyses.

Panel B of [Table 2](#) reports the descriptive statistics for the main variables. The mean and median values of abnormal positive managerial tone (*AbTone*) are 0.015 and 0.002, respectively, indicating that managerial tone manipulation is a common phenomenon in textual disclosures. The mean and median of the *ET* are -0.015 and -0.011 , respectively, with a minimum of -0.059 , a maximum of -0.001 and a standard deviation of 0.012. These results suggest substantial variation in ETs from external blockholders across Chinese listed firms and also reflect the prevalence of highly concentrated ownership structures, which are consistent with the findings of [Chen et al. \(2024\)](#). The descriptive statistics for the control variables are generally in line with those reported in the existing literature.

In addition, we conducted univariate tests by dividing the sample into high and low groups based on the level of external blockholder *ET* and compared the mean values of the main variables between the two groups. As shown in [Table 3](#), the *t*-test results indicate that the mean value of abnormal positive managerial tone (*AbTone*) in the high-*ET* group is significantly higher than that in the low-*ET* group (0.030 vs. 0.001, $t = -0.029$, $p < 0.01$). This finding suggests that managers are more likely to manipulate tone when facing greater ETs from external blockholders, providing preliminary evidence in support of the “market pressure hypothesis” proposed in this study.

4.2 Correlation analysis

Before performing the model regression, we conduct a correlation analysis, and the results are given in [Table 4](#), which lists the Pearson correlation coefficients among the variables. As shown in the table, there is a significant positive correlation between *ET* and managerial tone manipulation, providing further support for our [Hypothesis H1b](#).

Table 2. Sample distribution and descriptive statistics

Panel A: Sample distribution			
Year	Freq.	Percent (%)	Cum. (%)
2007	1,024	2.835	2.835
2008	1,184	3.278	6.114
2009	1,266	3.505	9.619
2010	1,338	3.705	13.324
2011	1,687	4.671	17.995
2012	1,983	5.491	23.485
2013	1,978	5.477	28.962
2014	2,052	5.682	34.644
2015	2,177	6.028	40.672
2016	2,384	6.601	47.273
2017	2,537	7.025	54.297
2018	3,072	8.506	62.803
2019	3,115	8.625	71.428
2020	3,181	8.808	80.236
2021	3,335	9.234	89.470
2022	3,803	10.530	100.000
Total	36,116	100.00	

Panel B: Summary statistics for variables in main analyses

Variables	Obs.	Mean	Std	Min	25th	Median	75th	Max
<i>AbTone</i>	36,116	0.015	0.981	-2.281	-0.656	0.002	0.669	2.441
<i>ET</i>	36,116	-0.015	0.012	-0.059	-0.019	-0.011	-0.006	-0.001
<i>Size</i>	36,116	22.209	1.286	19.842	21.292	22.026	22.938	26.209
<i>Lev</i>	36,116	0.438	0.203	0.059	0.277	0.434	0.589	0.897
<i>ROA</i>	36,116	0.039	0.063	-0.219	0.013	0.038	0.070	0.219
<i>OCF</i>	36,116	0.048	0.070	-0.159	0.009	0.047	0.089	0.248
<i>Growth</i>	36,116	0.166	0.393	-0.562	-0.028	0.107	0.269	2.414
<i>DA</i>	36,116	0.070	0.073	0.001	0.022	0.047	0.091	0.403
<i>BM</i>	36,116	0.620	0.249	0.119	0.430	0.617	0.806	1.180
<i>Age</i>	36,116	3.188	0.221	2.565	3.045	3.219	3.367	3.638
<i>Dir</i>	36,116	0.374	0.053	0.313	0.333	0.333	0.429	0.571
<i>Dual</i>	36,116	0.263	0.440	0.000	0.000	0.000	1.000	1.000
<i>Top1</i>	36,116	0.343	0.149	0.084	0.227	0.321	0.445	0.743
<i>Inst</i>	36,116	0.457	0.249	0.003	0.264	0.473	0.654	0.943
<i>Big4</i>	36,116	0.060	0.238	0.000	0.000	0.000	0.000	1.000

Note(s): This table consists of two panels. Panel A reports the sample distribution by year, including the number of observations, percentage and cumulative percentage for each year. Panel B presents descriptive statistics for the main variables, including the number of observations, mean, standard deviation, minimum, 25th percentile, median, 75th percentile and maximum. Variable definitions are provided in [Table 1](#)

Source(s): Table by authors

4.3 Baseline multivariate analysis

This study empirically examines the impact of external blockholder ET on abnormal positive managerial tone using Model (4), with the results presented in [Table 5](#). In column (1), we investigate the isolated effect of external blockholder ET on abnormal positive managerial tone. The regression results indicate that the ET of external blockholders (*ET*) is significantly and positively associated with abnormal positive managerial tone (*AbTone*) at the 5% level, suggesting that a higher degree of external blockholder ET leads to greater tone management by managers, which supports the market pressure hypothesis.

Table 3. Univariate analysis

Variables	Low <i>ET</i>		High <i>ET</i>		Test of difference <i>t</i> -stat.
	<i>N</i>	Mean	<i>N</i>	Mean	
<i>AbTone</i>	17,997	0.001	18,119	0.030	-0.029***
<i>Size</i>	17,997	21.928	18,119	22.487	-0.558***
<i>Lev</i>	17,997	0.445	18,119	0.430	0.015***
<i>ROA</i>	17,997	0.030	18,119	0.048	-0.018***
<i>OCF</i>	17,997	0.042	18,119	0.054	-0.011***
<i>Growth</i>	17,997	0.160	18,119	0.172	-0.012***
<i>DA</i>	17,997	0.072	18,119	0.067	0.004***
<i>BM</i>	17,997	0.594	18,119	0.646	-0.052***
<i>Age</i>	17,997	3.194	18,119	3.176	0.018***
<i>Dir</i>	17,997	0.375	18,119	0.374	0.001**
<i>Dual</i>	17,997	0.270	18,119	0.256	0.013***
<i>Top1</i>	17,997	0.326	18,119	0.359	-0.033***
<i>Inst</i>	17,997	0.389	18,119	0.525	-0.136***
<i>Big4</i>	17,997	0.023	18,119	0.097	-0.074***

Note(s): This table reports the mean values of the main variables for subsamples divided by the level of external blockholder exit threats (*ET*), as well as *t*-tests for the differences in means between the high and low *ET* groups. Variable definitions are provided in Table 1. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively

Source(s): Table by authors

In column (2), after controlling for firm characteristics such as firm size, leverage and profitability, the positive association between external blockholder *ET* and abnormal positive managerial tone remains robust. Finally, in column (3), we further control for ownership structure and external governance mechanisms, and the results continue to demonstrate a significant positive relationship between external blockholder *ET* and abnormal positive managerial tone. Specifically, a one standard deviation increase in the external blockholder *ET* leads to a 4.23% (3.5246×0.012) increase in abnormal positive managerial tone.

4.4 Endogenous test

4.4.1 Propensity score matching method. To address potential sample selection bias, this study conducted a robustness check using the PSM method. Specifically, we first construct a dummy variable, *DET*, which equals 1 if the external blockholder *ET* is above the median and 0 otherwise. All control variables from Model (4) are included as covariates, and 1:1 nearest-neighbor matching is employed to pair the treatment and control groups. After matching, we conduct covariate balance tests, which confirm that all variables achieve satisfactory balance between the treated and control samples. Subsequently, we re-estimate Model (4) using the PSM-matched sample. As shown in column (1) of Table 6, the coefficient of *ET* remains significantly positive, indicating that a higher external blockholder *ET* increases the degree of management tone manipulation. This finding is consistent with the main regression results, further supporting the robustness of our conclusions and suggesting that the original model is not subject to severe sample selection bias.

4.4.2 Heckman two-stage model. To mitigate the potential impact of sample selection bias on our conclusions, this study employs the Heckman two-stage method to test for endogeneity. In the first-stage regression, we use a probit model to analyze the determinants of external blockholder *ET* and calculate the inverse Mills ratio (*IMR*). The model is specified as follows:

Table 4. Correlation coefficient matrix

Variables	<i>AbTone</i>	<i>ET</i>	<i>Size</i>	<i>Lev</i>	<i>ROA</i>	<i>OCF</i>	<i>Growth</i>	<i>DA</i>	<i>BM</i>	<i>Age</i>	<i>Dir</i>	<i>Dual</i>	<i>Top1</i>	<i>Inst</i>	<i>Big4</i>
<i>AbTone</i>	1	0.016***	-0.042***	-0.045***	0.021***	-0.016***	0.073***	0.005	0.005	-0.004	0.037***	0.060***	-0.063***	-0.092***	0.081***
<i>ET</i>	0.016***	1	0.267***	-0.022***	0.165***	0.090***	0.048***	-0.059***	0.283***	-0.025***	-0.024***	-0.032***	0.129***	0.323***	0.191***
<i>Size</i>	-0.021***	0.240***	1	0.459***	-0.022***	0.063***	0.048***	-0.063***	0.518***	0.110***	-0.017***	-0.158***	0.149***	0.377***	0.278***
<i>Lev</i>	-0.043***	-0.030***	0.457***	1	-0.398***	-0.156***	0.020***	0.057***	0.358***	0.198***	-0.026***	-0.138***	0.047***	0.195***	0.102***
<i>ROA</i>	-0.009	0.150***	0.024***	-0.359***	1	0.412***	0.353***	0.011**	-0.263***	-0.107***	-0.020***	0.055***	0.123***	0.127***	0.034***
<i>OCF</i>	-0.017***	0.067***	0.062***	-0.164***	0.399***	1	0.069***	-0.151***	-0.095***	-0.027***	-0.020***	-0.008	0.096***	0.140***	0.078***
<i>Growth</i>	0.043***	0.024***	0.048***	0.039***	0.263***	0.037***	1	0.065***	-0.090***	-0.075***	0.000	0.031***	0.019***	0.062***	-0.001
<i>DA</i>	0.009	-0.052***	-0.059***	0.082***	-0.093***	-0.181***	0.134***	1	-0.118***	0.024***	0.002	0.005	-0.024***	-0.017***	-0.037***
<i>BM</i>	0.012**	0.276***	0.542***	0.351***	-0.201***	-0.103***	-0.059***	-0.108***	1	0.087***	-0.033***	-0.117***	0.147***	0.120***	0.141***
<i>Age</i>	0.014***	-0.033***	0.084***	0.190***	-0.067***	-0.025***	-0.032***	0.034***	0.075***	1	-0.071***	-0.154***	-0.045***	0.131***	0.037***
<i>Dir</i>	0.036***	-0.028***	0.008	-0.020***	-0.020***	-0.014***	0.000	0.010**	-0.028***	-0.070***	1	0.121***	0.012**	-0.087***	0.016***
<i>Dual</i>	0.058***	-0.025***	-0.152***	-0.137***	0.031***	-0.009*	0.013**	0.003	-0.119***	-0.152***	0.122***	1	-0.060***	-0.202***	-0.065***
<i>Top1</i>	-0.059***	0.156***	0.193***	0.052***	0.136***	0.090***	0.023***	-0.020***	0.155***	-0.050***	0.024***	-0.067***	1	0.517***	0.127***
<i>Inst</i>	-0.090***	0.290***	0.400***	0.199***	0.142***	0.128***	0.063***	-0.006	0.120***	0.127***	-0.084***	-0.207***	0.512***	1	0.234***
<i>Big4</i>	0.089***	0.146***	0.349***	0.100***	0.041***	0.074***	-0.006	-0.033***	0.146***	0.027***	0.027***	-0.065***	0.139***	0.235***	1

Note(s): This table reports the correlation coefficients among the main variables. The lower left triangle presents Pearson correlation coefficients, while the upper right triangle presents Spearman correlation coefficients. The dependent variable is the residual value estimated based on the model of [Huang et al. \(2014\)](#). These residuals do not reflect objective expectations of the company's actual operations or future development but rather capture the results of managerial tone manipulation. The key explanatory variable is the exit threat of blockholders. Following [Dou et al. \(2018\)](#), we employ the interaction between blockholder competition and stock liquidity to capture the intensity of exit threat. Other variables are defined in [Table 1](#). ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively

Source(s): Table by authors

Table 5. Threat of exit on the abnormal positive management tone

Variable	<i>AbTone</i> (1)	<i>AbTone</i> (2)	<i>AbTone</i> (3)
<i>ET</i>	1.7289** (1.979)	1.7643** (2.070)	3.5246*** (4.104)
<i>Size</i>		-0.0086 (-0.554)	-0.0037 (-0.237)
<i>Lev</i>		-0.3841*** (-5.140)	-0.3058*** (-4.176)
<i>ROA</i>		-0.6329*** (-3.804)	-0.4281*** (-2.614)
<i>OCF</i>		-0.1717 (-1.391)	-0.1447 (-1.198)
<i>Growth</i>		0.1491*** (9.426)	0.1527*** (9.911)
<i>DA</i>		0.0204 (0.227)	0.0162 (0.182)
<i>BM</i>		0.1540** (2.541)	0.1190* (1.940)
<i>Age</i>		0.0903 (1.516)	0.1246** (2.110)
<i>Dir</i>			0.4804** (2.150)
<i>Dual</i>			0.1044*** (4.269)
<i>Top1</i>			-0.1828* (-1.834)
<i>Inst</i>			-0.4391*** (-7.259)
<i>Big4</i>			0.4841*** (7.482)
<i>Year FE</i>	Yes	Yes	Yes
<i>Industry FE</i>	Yes	Yes	Yes
<i>Constant</i>	0.0404** (2.090)	0.0232 (0.067)	-0.1641 (-0.444)
<i>Observations</i>	36,116	36,116	36,116
<i>Adjusted R²</i>	0.0014	0.0089	0.0343

Note(s): This table presents the baseline regression results that test the relation between blockholder exit threat and management tone manipulation. The dependent variable is the residual value estimated based on the model of Huang *et al.* (2014). These residuals do not reflect objective expectations of the company's actual operations or future development but rather capture the results of managerial tone manipulation. The key explanatory variable is the exit threat of blockholders. Following Dou *et al.* (2018), we employ the interaction between blockholder competition and stock liquidity to capture the intensity of exit threat. Other variables are defined in Table 1. The *t*-statistics reported in parentheses are based on standard errors clustered by firm. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively

Source(s): Table by authors

$$\begin{aligned}
 DET_{it} = & \gamma_0 + \gamma_1 Size_{it} + \gamma_2 Lev_{it} + \gamma_3 ROA_{it} + \gamma_4 Growth_{it} + \gamma_5 OCF_{it} + \gamma_6 MB_{it} + \gamma_7 Age_{it} + \gamma_8 Dsize_{it} + \\
 & \gamma_9 Dir_{it} + \gamma_{10} Dual_{it} + \gamma_{11} Top1_{it} + \gamma_{12} Inst + \gamma_{13} SOE_{it} + \gamma_{14} EPS_{it} + \sum Year + \sum Industry + \varepsilon_{it}
 \end{aligned}
 \tag{5}$$

where *DET* is a dummy variable representing the external blockholder ET; it is assigned a value of 1 if *ET* is above the median and 0 otherwise. *Dsize* denotes the number of board members. *SOE* is an indicator of ownership type, taking the value of 1 for state-owned

Table 6. Endogeneity test results

Variable	<i>AbTone_t</i> PSM (1)	<i>AbTone_t</i> Heckman two-stage (2)	<i>AbTone_{t+1}</i> Lagged one-stage (3)
<i>ET_t</i>	3.5246*** (4.104)	3.5180*** (4.097)	5.2191*** (5.422)
<i>IMR</i>		0.0506 (0.162)	
<i>Controls</i>	Yes	Yes	Yes
<i>Year FE</i>	Yes	Yes	Yes
<i>Industry FE</i>	Yes	Yes	Yes
<i>Constant</i>	-0.1641 (-0.444)	-0.8584*** (-0.976)	-0.3149 (-0.797)
<i>Observations</i>	36,116	36,116	30,430
<i>Adjusted R²</i>	0.0343	0.0343	0.0384

Note(s): *t*-values are reported in parentheses. *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively. All regressions control for firm characteristics, year-fixed effects and industry-fixed effects. “PSM” denotes Propensity Score Matching; “Heckman two-stage” refers to the Heckman two-stage method; “lagged one-stage” indicates regressions using the lagged value of external blockholder exit threat. *IMR* represents the inverse Mills ratio. Variable definitions are provided in [Table 1](#)

Source(s): Table by authors

enterprises and 0 otherwise. *EPS* represents earnings per share. Other control variables are consistent with those defined earlier (see [Table 1](#)).

In the second stage, the estimated *IMR* is included in Model (4) for regression analysis. Column (2) of [Table 6](#) reports the second-stage results after correcting for sample selection bias. The coefficient of *IMR* is not statistically significant, indicating that sample selection bias is not a concern in our sample. Furthermore, the results from the two-stage regression continue to show that a higher level of external blockholder *ET* is associated with increased management tone manipulation, confirming the robustness of our main findings.

4.4.3 Lagged model. Given that the governance effect of external blockholders may exhibit a lagged impact, we employ the lagged value of the external blockholder *ET* to examine its effect on contemporaneous management tone manipulation. Specifically, we use the *ET* in period *t* (*ET*) to predict management tone manipulation in period *t*+1 (*AbTone_{t+1}*). The regression results show that the *ET* of external blockholders in period *t* has a significantly positive effect on management tone manipulation in period *t*+1, and the results remain robust.

4.5 Robustness analysis

4.5.1 Alternative measure of blockholder exit threats. To avoid the limitations associated with a single indicator and to enhance the robustness of our findings, we follow [Dou et al. \(2018\)](#) and use the number of external blockholders as an alternative proxy for *BHCOMP*. In their theoretical framework, [Dou et al. \(2018\)](#) argue that greater competition among external blockholders intensifies the threat of exit, thereby strengthening the governance effect. Accordingly, a higher number of external blockholders indicates a more dispersed ownership structure and a stronger *ET*. In this robustness test, we redefine the external blockholder *ET* to the product of stock liquidity and the number of external blockholders. Regression results using this alternative measure, as shown in [Table 7](#) (Column 1), remain significant and consistent with our main findings, further confirming the robustness of our conclusions. This approach is consistent with the robustness checks in [Dou et al. \(2018\)](#), who also adopted the number of blockholders as a substitute indicator in their empirical analysis, thus reinforcing the generalizability and reliability of our results.

Table 7. Robustness test results

Variable	<i>AbTone</i> Alternative measure of blockholder exit threats (1)	<i>AbTone</i> Redefining blockholders (2)	<i>AbTone1</i> Redefining management tone (3)	<i>TD_AbTone</i> Alternative tone measurement using NTUSD dictionary (4)
<i>ET</i>			3.4889*** (4.043)	2.4788*** (2.782)
<i>ET_10</i>		3.0122*** (3.801)		
<i>ET_SunShr</i>	1.0178** (2.562)			
<i>Controls</i>	Yes	Yes	Yes	Yes
<i>Year FE</i>	Yes	Yes	Yes	Yes
<i>Industry FE</i>	Yes	Yes	Yes	Yes
<i>Constant</i>	-0.5963* (-1.756)	-0.1476 (-0.399)	-0.2325 (-0.633)	-0.3807 (-1.144)
<i>Observations</i>	36,116	36,116	36,116	36,116
<i>Adjusted R²</i>	0.0263	0.0341	0.0324	0.0265

Note(s): Robust standard errors are clustered at the firm level. *t*-statistics are reported in parentheses. All regressions include control variables, year-fixed effects and industry-fixed effects. Column (1) uses the number of external blockholders as an alternative measure of exit threats; Column (2) redefines blockholders using the 10% ownership threshold; Column (3) redefines management tone manipulation using *AbTone1*; Column (4) measures management tone using the NTUSD sentiment dictionary. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively. The word frequency data based on the National Taiwan University Chinese Sentiment Dictionary are obtained from the CNRDS “Annual Report Text Tone” database. Variable definitions are provided in [Table 1](#)

Source(s): Table by authors

4.5.2 Redefining blockholders. [Attig et al. \(2008\)](#) define external blockholders as shareholders who hold more than 10% of shares, in accordance with the requirements of the USA SEC. According to the *Company Law of China*, shareholders holding more than 10% of shares have the right to request the board of directors to convene an extraordinary general meeting and can appoint one director to the listed company. Drawing on the approach of [Attig et al. \(2008\)](#) and based on the aggregation of concerted actors, we redefine external blockholders as shareholders holding more than 10% of shares. After recalculating and conducting the relevant tests, the results remain unchanged, as shown in [Table 7](#) (Column 2).

4.5.3 Redefining management tone. Following the methodology of [Yan et al. \(2024\)](#), we define management tone as $Tone1 = (\text{positive words} - \text{negative words}) / (\text{positive words} + \text{negative words})$. We then recalculated management tone manipulation (*Abtone1*) based on Model (1) and re-estimated our regressions. The results remain robust, as shown in [Table 7](#) (Column 3).

4.5.4 Alternative measure of management tone. The CNRDS “Annual Report Text Sentiment Analysis” database is based on the Loughran and McDonald Dictionary (LM dictionary), which was originally developed for English-language financial texts and does not account for the linguistic structure and usage patterns of Chinese. This may impair the accuracy of management tone measurement in the Chinese context. To address this limitation, we follow the approach of [Feng, Pan, Tao, and Hu \(2024\)](#) and employ the National Taiwan University Sentiment Dictionary (NTUSD), which is specifically designed for Chinese sentiment analysis and widely recognized in academic research. Using NTUSD, we re-measure management tone and calculate abnormal positive tone (*TD_AbTone*) based on Model (1). The regression results using this alternative measure remain significant and

consistent with our main findings, as shown in Table 7 (Column 4), providing further evidence for the robustness and generalizability of our conclusions.

4.5.5 *Analysis by different time periods* [8]. Given the phased changes in China’s capital market environment and corporate governance practices during the study period, the effect of external blockholder ETs may vary across different sub-periods. Therefore, it is necessary to conduct subgroup regressions by time interval to test the robustness of our main findings. Specifically, we divide the full sample into three sub-periods – 2007–2013, 2014–2019 and 2020–2022 – and re-estimate the regressions for each subsample [9]. The results are presented in Table 8. The regression coefficients for external blockholder ETs are significantly positive at the 1% level for the periods 2007–2013 and 2014–2019, indicating that heightened ETs intensify managerial tone management during these years. The results are presented in Table 8. The regression coefficients for *ET* are significantly positive in both the 2007–2013 and 2014–2019 sub-periods, indicating that increased ETs prompted managers to engage in more aggressive tone management during periods of relatively lax regulatory oversight. However, in the 2020–2022 sub-period, the *ET* coefficient turns negative and becomes statistically insignificant. This change coincides with the implementation of the revised securities law and the strengthening of disclosure regulation, suggesting that heightened regulatory scrutiny and enforcement have significantly weakened, or even reversed, the impact of ETs on managerial disclosure behavior. These results underscore the moderating effect of the institutional environment: stronger regulation can mitigate the market-driven pressure on managers, thereby constraining opportunistic tone management and fundamentally reshaping managerial incentives.

5. Additional analyses

5.1 *Heterogeneity analysis*

5.1.1 *Degree of market pressure.* Prior research has demonstrated that perceived market pressure is an important factor influencing managerial short-termism and disclosure strategies (Graham *et al.*, 2005; Gao and Zhang, 2019; Jiang and Xin, 2022). When a firm’s operating or stock performance deteriorates, its market value tends to decline, resulting in negative market feedback and heightened pressure on management. Under such circumstances, managers are

Table 8. Robustness regression results across different time periods

Variables	<i>AbTone</i> 2007– 2013 (1)	<i>AbTone</i> 2014– 2019 (2)	<i>AbTone</i> 2020– 2022 (3)
<i>ET</i>	4.5578*** (2.604)	6.8786*** (6.018)	–0.8306 (–0.799)
<i>Controls</i>	Yes	Yes	Yes
<i>Year FE</i>	Yes	Yes	Yes
<i>Industry FE</i>	Yes	Yes	Yes
<i>Constant</i>	0.7938 (1.234)	–0.7143 (–1.244)	–0.3124 (–0.764)
<i>Observations</i>	10,460	15,337	10,319
<i>Adjusted R²</i>	0.0476	0.0374	0.0470

Note(s): This table reports the regression results after dividing the full sample into three sub-periods: 2007–2013, 2014–2019 and 2020–2022. Column (1) presents the results for 2007–2013, column (2) for 2014–2019 and column (3) for 2020–2022. The *t*-statistics reported in parentheses are based on standard errors clustered by firm. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively. Variable definitions are provided in Table 1

Source(s): Table by authors

more likely to be motivated to disclose an abnormally optimistic tone in their communications. Therefore, this study expects that the positive association between external blockholder ETs and abnormally positive managerial tone will be more pronounced when managers experience greater market pressure.

In particular, we decompose market pressure into operating performance pressure and stock performance pressure. The poorer the operating and stock performance (i.e. the lower the values), the greater the market pressure perceived by management. We use operating profit margin (operating profit divided by operating revenue) to measure operating performance pressure (*Performance*) and stock excess return (the annual stock return of the firm minus the industry average for the same period) to measure stock market pressure (*MarketPerform*). Interaction terms between external blockholder ETs and each type of market pressure are included in the baseline regression model to test for moderating effects. As shown in columns (1) and (2) of Table 9, the coefficients of *ET*×*Performance* and *ET*×*MarketPerform* are significantly negative at the 5% and 1% levels, respectively. This indicates that as firm performance declines and market pressure increases, the positive relationship between external blockholder ETs and abnormally positive managerial tone becomes stronger.

Table 9. Heterogeneity analysis

Variable	<i>AbTone</i> (1)	<i>AbTone</i> (2)	<i>AbTone</i> (3)	<i>AbTone</i> (4)
<i>ET</i> × <i>Performance</i>	-14.8301*** (-2.857)			
<i>Performance</i>	0.5036*** (4.575)			
<i>ET</i> × <i>MarketPerform</i>		-3.5060*** (-3.183)		
<i>MarketPerform</i>		-0.0039 (-0.162)		
<i>ET</i> × <i>RPT</i>			4.9373*** (2.583)	
<i>RPT</i>			-0.1622*** (-3.234)	
<i>ET</i> × <i>InsiTread</i>				0.1030*** (2.340)
<i>InsiTread</i>				-0.0017* (-1.817)
<i>ET</i>	6.0844*** (3.916)	4.1204*** (4.623)	1.7909* (1.773)	0.3016 (0.788)
<i>Controls</i>	Yes	Yes	Yes	Yes
<i>Year FE</i>	Yes	Yes	Yes	Yes
<i>Industry FE</i>	Yes	Yes	Yes	Yes
<i>Constant</i>	-0.3192 (-0.868)	-0.1168 (-0.316)	-0.2103 (-0.571)	-0.2004 (-0.531)
<i>Observations</i>	35,789	36,116	35,492	35,762
<i>Adjusted R²</i>	0.0431	0.0351	0.0412	0.0332

Note(s): *ET* denotes external blockholder exit threat; *Performance* denotes operating performance pressure; *MarketPerform* denotes stock market pressure; *RPT* denotes the degree of related party transactions; *InsiTread* denotes the degree of insider trading; *AbTone* represents abnormal positive tone. Standard errors are clustered by firm. *t*-statistics are reported in parentheses. All regressions include control variables as well as year- and industry-fixed effects. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively. Variable definitions are provided in Table 1

Source(s): Table by authors

5.1.2 Degree of tunneling of major shareholders. When controlling shareholders are able to extract private benefits, they may expropriate assets that rightfully belong to minority shareholders and tunnel company resources (Boateng and Huang, 2017). In firms where there is a significant separation between control rights and cash flow rights, controlling shareholders are more likely to expropriate assets when the potential gains outweigh the associated costs, even at the expense of other shareholders' interests (Jiang and Kim, 2015; Chen et al., 2015). A notable feature of Chinese listed companies is their highly concentrated ownership structures, where a single or a few large shareholders often exert absolute control over the firm (Aharony et al., 2010). Under such circumstances, tunneling by controlling shareholders constitutes a key agency problem in corporate governance (Aharony et al., 2010). Controlling shareholders may leverage their dominant position to engage in related party transactions (RPTs), earnings management and market manipulation, thereby harming the interests of minority shareholders (Jiang and Kim, 2015; Chen et al., 2015). To facilitate tunneling, controlling shareholders often require the cooperation of management, including manipulating textual disclosures to reduce negative market reactions. Therefore, we expect that the stronger the tunneling incentives of controlling shareholders, the greater the pressure they exert on management to adopt abnormally positive disclosure tones.

Following Aharony et al. (2010), we use the extent of RPTs between listed firms and their related parties as a proxy for tunneling behavior by controlling shareholders. Specifically, we measure tunneling using the ratio of total annual RPT to total assets; a higher value indicates more severe tunneling activities. We included an interaction term between external blockholder ETs and RPT in our baseline regression to examine the moderating effect. As reported in column (3) of Table 9, the coefficient on the interaction term ($ET \times RPT$) is significantly positive at the 1% level, indicating that as the degree of tunneling increases, the positive association between external blockholder ETs and abnormally positive managerial tone is further strengthened, likely due to increased market pressure on management.

5.1.3 Degree of insider trading. The higher the level of insider trading, the greater the need for corresponding information disclosure (Huang and Liang, 2024). When insider trading is prevalent in a listed company, violations in information disclosure are more likely to occur (Huang and Liang, 2024). In this study, we measure the degree of insider trading by adopting the method proposed by Llorente, Michaely, Saar and Wang (LMSW) (2002), which captures information asymmetry in the trading process. Llorente et al. (2002) argue that a high positive autocorrelation between price and trading volume indicates that a large proportion of trading is based on private information, reflecting a high degree of information asymmetry. Their empirical evidence from the USA market supports this view.

The LMSW approach assumes that information relevant to future stock prices can be divided into two types, and investors are also categorized into two groups. Each group observes one type of information, but only one group can access both types, resulting in information asymmetry. The trading activities of investors with access to only one type of information are primarily hedging transactions for risk diversification, while those with access to both types are speculation based on private information. Based on their model, Llorente et al. (2002) derive a dynamic relationship between stock returns and turnover:

$$R_{it+1} = C_0 + C1_i R_{it} + C2_i V_{it} R_{it} + \varepsilon \tag{6}$$

where R_{it+1} is the daily stock return, $V_{it} = \log turnover_{it} - \frac{1}{180} \sum_{s=-180}^{-1} \log turnover_{it+s}$, $turnover$ is the stock's turnover ratio, $C0_i$, $C1_i$ and $C2_i$ are the parameters to be estimated. When information asymmetry is severe, speculative trading based on private information dominates, leading to persistent high trading volume and returns and a significant positive autocorrelation between returns and trading volume (i.e. $C2$ is significantly positive). When

information asymmetry is absent or mild, hedging transactions dominate and the autocorrelation is non-positive (i.e. $C2 \leq 0$).

Following this methodology, we use the estimated $C2$ parameter for each stock as a proxy for the degree of insider trading (*InsiTread*). We include the interaction term between external blockholder ETs and insider trading in the baseline regression to test the moderating effect. As shown in column (4) of Table 9, the coefficient of the interaction term ($ET \times InsiTread$) is significantly positive at the 1% level, suggesting that as the degree of insider trading increases, the positive association between external blockholder ETs and abnormally positive managerial tone is further strengthened.

5.1.4 Cross-sectional analysis [10]. Given that large firms typically possess more complex business structures and face greater disclosure requirements, they are also subject to heightened scrutiny from regulators, investors and the media. This elevated level of external oversight increases the sensitivity of management to market reactions. Consequently, when confronted with blockholder ETs, managers are more motivated to manipulate the tone of their disclosures to influence stakeholder perceptions and to safeguard both the company's image and their own reputations.

Therefore, we further examine whether the impact of blockholder ETs on management tone manipulation is moderated by firm size. Specifically, we divide the sample into large and small firms based on the median value of total assets and conduct separate regressions for each group. As shown in Table 10, the coefficient of ET is 5.0176 and statistically significant ($p < 0.01$) in the large-firm group, whereas the coefficient is 1.5818 and not significant ($p = 0.112$) in the small-firm group. Importantly, the difference in ET coefficients between large and small firms is statistically significant (difference = 3.4358, $p = 0.001$; see Table 10), confirming a stronger effect in large firms. These results suggest that the positive effect of blockholder ETs on management tone manipulation is mainly present in large firms but not in small firms. This finding enriches the mechanism analysis of this study and highlights the important moderating role of firm size in the relationship between blockholder ET and management tone manipulation.

Table 10. Cross-sectional regression results by firm size

Variable	High size <i>AbTone</i> (1)	Low size <i>AbTone</i> (2)
<i>ET</i>	5.0176*** (3.692)	1.5818 (1.590)
<i>Controls</i>	Yes	Yes
<i>Year FE</i>	Yes	Yes
<i>Industry FE</i>	Yes	Yes
<i>Constant</i>	-0.7386 (-1.222)	-0.4038 (-0.662)
<i>Difference (p-value)</i>	3.4358 (0.001)	
<i>Observations</i>	18,058	18,058
<i>Adjusted R²</i>	0.0529	0.0382

Note(s): This table reports the regression results examining the moderating effect of firm size on the relationship between blockholder exit threat (ET) and management tone manipulation ($AbTone$). The sample is divided into high-size and low-size groups based on the median value of total assets. All regressions include control variables, year-fixed effects and industry-fixed effects. Standard errors are clustered by firm. t -statistics are reported in parentheses. The p -value for the difference in ET coefficients between groups is obtained using the *bdiff* command with 1,000 bootstrap replications and clustered standard errors. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively. Variable definitions are provided in Table 1

Source(s): Table by authors

5.2 Mechanism analysis

The strength of external blockholder ETs depends on the extent to which managerial [11] personal wealth is affected by stock price declines (Bharath *et al.*, 2013; Dou *et al.*, 2018; Chen *et al.*, 2024). It is precisely because managers are highly concerned about the company’s stock price that the market pressure exerted by blockholder ETs can discipline managers to act in the interests of blockholders in order to prevent their exit (Bharath *et al.*, 2013; Dou *et al.*, 2018). In other words, if a stock price decline poses little or no risk to managerial personal wealth, managers have little incentive to be concerned about the stock price, and thus, the ET loses its disciplining effect (Bharath *et al.*, 2013; Dou *et al.*, 2018). Conversely, when a drop in stock price leads to substantial losses in managerial personal wealth, managers face greater market pressure. To prevent blockholders from selling their shares – which would negatively impact their own wealth – managers are more likely to engage in short-term behaviors and tone manipulation. Thus, the market pressure imposed by external blockholder ETs becomes significantly more effective (Bharath *et al.*, 2013; Dou *et al.*, 2018). Therefore, we argue that when managerial wealth is highly sensitive to stock price changes, managers are more likely to adopt strategic disclosure behaviors and manipulate disclosure tone to prevent blockholder exits.

We use the market value of managerial shareholdings (*wealth*) as a proxy for the sensitivity of managerial wealth to stock price changes, as this variable accounts for the impact of stock price fluctuations across different firms on managerial wealth. Based on the median value of *wealth*, we divide the sample into two groups: high and low stock price *wealth* sensitivity. We then conducted subsample regressions. The results (see Table 11) show that in the high-sensitivity group, the coefficient of *ET* is 1.6349 and significant at the 5% level, while in the low-sensitivity group, the coefficient of *ET* is 0.4508 and not statistically significant. Importantly, the difference in *ET* coefficients between the two groups is statistically significant (difference = 1.1841, $p = 0.009$), confirming that the disciplining effect of ETs is significantly stronger when managerial *wealth* is more sensitive to stock price changes. This finding highlights that managerial *wealth* sensitivity to stock prices is a key mechanism underlying the effectiveness of external blockholder ETs.

Table 11. Mechanism analysis based on stock price *wealth* sensitivity

Variable	High managerial <i>wealth</i> sensitivity <i>AbTone</i> (1)	Low managerial <i>wealth</i> sensitivity <i>AbTone</i> (2)
<i>ET</i>	1.6349** (2.254)	0.4508 (0.575)
<i>Controls</i>	Yes	Yes
<i>Year FE</i>	Yes	Yes
<i>Industry FE</i>	Yes	Yes
<i>Constant</i>	-0.2801 (-1.311)	-0.1880 (-0.834)
<i>Difference (p-value)</i>	1.1841 (0.009)	
<i>Observations</i>	18,637	17,479
<i>Adjusted R²</i>	0.0396	0.0340

Note(s): The coefficient difference between groups is tested using the bootstrap method. *AbTone* represents abnormal positive tone, and *ET* denotes external blockholder exit threat. Standard errors are clustered by firm. *t*-statistics are reported in parentheses. All regressions include control variables, year-fixed effects and industry-fixed effects. The coefficient difference between groups is tested using the bootstrap method (based on 1,000 replications with clustered standard errors), as implemented by the *bdiff* command. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively. Variable definitions are provided in Table 1

Source(s): Table by authors

6. Conclusion and implications

This study empirically examines the impact of outside blockholder ETs on managerial tone management from the perspective of textual information disclosure. The findings show that ETs of pressure on managers, prompting them to adopt an abnormally positive tone in disclosures, support the “market pressure hypothesis.” This positive relationship is particularly significant in contexts with greater market pressure, higher levels of blockholder tunneling and more severe insider trading. Mechanism analysis further reveals that ETs influence tone management by increasing the sensitivity of managerial wealth to stock prices. Our results highlight the potential adverse effects of blockholder behavior on corporate financial reporting quality from a non-financial information perspective.

Compared to prior USA-based studies suggesting that blockholder ETs improve financial reporting quality (Dou *et al.*, 2018), our evidence indicates the possibility of collusion between blockholders and management in the Chinese context. This contrast can be attributed to differences in institutional environments: while the USA market offers strong investor protection, effective legal enforcement and mature mechanisms, the Chinese market is characterized by concentrated ownership, frequent tunneling, weaker minority shareholder protection and lax disclosure regulation. These factors facilitate collusion rather than effective monitoring. Furthermore, our study extends the literature by focusing on tone management in narrative disclosures, which are more flexible and discretionary than financial statements and thus may become alternative tools for strategic disclosure when earnings management is constrained.

Our findings have several important implications. First, narrative disclosure can be a double-edged sword. While it enriches information available to the market, excessive managerial discretion may cause “window dressing” or misleading disclosures, exacerbating information asymmetry. Regulators should improve systems for narrative disclosure and strengthen cross-validation between financial and non-financial information. Investors should also enhance their ability to interpret managerial tone and be vigilant against overly optimistic language. Second, as blockholders play an increasingly important role in China’s corporate governance, regulatory bodies should encourage their positive involvement and establish mechanisms that increase the cost and risk of collusion with management. Finally, given that market pressure from ETs exacerbates tone management in firms with higher tunneling and insider trading, regulators should intensify oversight of these activities and strengthen legal protection for minority shareholders to foster a healthier securities market.

Although this study is the first to investigate the relationship between external blockholder ETs and managerial tone manipulation and offers both academic and practical value, it still has the following limitations, which also provide directions for future research. First, our analysis focuses exclusively on Chinese A-share listed companies. The A-share market is characterized by unique institutional, regulatory and ownership structures, which may differ significantly from those of other markets, such as B-shares, H-shares or international stock exchanges. As a result, the generalizability of our findings to other segments or international contexts may be limited. Second, there are substantial differences between China and developed markets in terms of disclosure regulation, legal enforcement and investor protection. These institutional distinctions suggest that the mechanisms and effects identified in this study may not be directly applicable to other countries or regions. Replicating this research in different institutional settings would be valuable for assessing the robustness and boundary conditions of our conclusions. Third, our empirical analysis relies primarily on the textual analysis of annual report narratives. While this approach captures important aspects of management tone, it may not fully reflect all channels of managerial communication, such as earnings calls, press releases or ad hoc disclosures. Future studies could incorporate additional data sources to provide a more comprehensive assessment of tone management behaviors. In light of these limitations, future research could expand the sample to include other market segments or conduct cross-country comparative studies. Such extensions would help to further verify the applicability of our findings and enhance their international relevance.

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Notes

1. [Bushman, Piotroski, and Smith \(2004\)](#) document that managers in countries with weaker investor protection are more likely to obscure information using ambiguous disclosures, as evidenced by their global corporate transparency index.
2. There are substantial differences between the United States and China in the regulatory approach and level of detail required for textual information disclosure. The U.S. system, exemplified by SEC filings such as Form 10-K, is highly standardized and prescriptive, with clear formats, content requirements, and detailed guidance on disclosure ([Brown & Tucker, 2011](#); [SEC, 2015](#)). For instance, the Management's Discussion and Analysis (MD&A) section must provide comprehensive discussions of financial performance, risks, and future outlook, and is subject to strict rules regarding language and the treatment of forward-looking statements. False or misleading disclosures can result in significant legal liability under statutes such as the Sarbanes-Oxley Act and the PSLRA ([Rogers et al., 2011](#)). By contrast, China adopts a more principle-based and flexible regulatory regime. Disclosure requirements for the MD&A are less specific, granting firms considerable discretion in both the content and depth of information provided, and lacking a unified template or stringent enforcement ([Chen, Luo, & Zhu, 2019](#); [Chen, 2022](#)). Regulatory oversight of forward-looking disclosures is also comparatively lenient, with lighter legal consequences for non-compliance. These institutional differences have direct implications for the standardization and transparency of corporate disclosures in the two countries ([Bushman et al., 2004](#)). For the detailed requirements of SEC Form 10-K, see [U.S. Securities and Exchange Commission \(2015\)](#). Form 10-K. <https://www.sec.gov/about/forms/form10-k.pdf>
3. If the optimistic tone in a company's annual report is consistent with its actual business performance—i.e. the positive tone accurately reflects the firm's operating condition—then no tone manipulation is deemed to have occurred. Such cases, where disclosure is consistent with actual performance, fall outside the scope of this study and are therefore not discussed further.
4. The choice of 2007 as the starting point is based on the following considerations: (1) By the end of 2006, China's A-share market had completed the split-share structure reform, which significantly improved the liquidity of listed companies' shares and strengthened the feasibility of exit threats by external blockholders ([Hope et al., 2017](#); [Chen et al., 2024](#)); (2) China's Ministry of Finance officially implemented the Accounting Standards for Business Enterprises (2006) on January 1, 2007, introducing significant changes in financial instrument classification and fair value measurement (MOF Decree No. 33), which ensures consistency in accounting standards ([Jin, 2010](#)); (3) Since 2007, the China Securities Regulatory Commission (CSRC) has introduced several

- important revisions to information disclosure requirements for listed firms, resulting in a more stable structure for annual report narratives (such as the MD&A section), ensuring data comparability.
5. For illustrative MD&A excerpts showing high and low abnormal tone, see [Appendix 3](#).
 6. Detailed information on the construction and content of the sentiment dictionary is available on the China Research Data Service Platform (CNRDS) (<https://www.cnrds.com/>). The full lexicon is available from the database or upon request from the authors.
 7. Our correlation matrix and variance inflation factor (VIF) diagnostics indicate a high degree of collinearity between the interaction term and its constituent variables (e.g. the correlation coefficient between *ET* and *TURNOVER* is as high as -0.900). Including the main effects under such circumstances would result in severe multicollinearity, coefficient instability, sign reversals, and inflated standard errors, which would undermine the explanatory power and reliability of the model estimates. The detailed correlation matrix and VIF test results are presented in the [Appendix](#).
 8. We are very grateful to the reviewer for this suggestion, which has been extremely helpful in enhancing the robustness of our conclusions.
 9. We divide the sample period into three sub-periods based on major regulatory milestones that have fundamentally influenced external blockholder governance and information disclosure in China. *The first period (2007–2013)* covers the post-share reform era, including the promulgation of the Information Disclosure Administrative Measures (2007), the completion of the split-share structure reform (2007). During this stage, there were minimal restrictions on blockholder exits and relatively low levels of disclosure enforcement, creating an environment where exit threats could generate substantial market pressure on managers. *The second period (2014–2019)* is marked by the issuance of the “New Nine Guidelines” (“Opinions on Further Promoting the Healthy Development of the Capital Market”; 2014), which emphasized investor protection, as well as the introduction of new M&A regulations aimed at curbing “speculative restructurings” (2016), and the first restrictive rules on blockholder share reduction (2017). These milestones significantly strengthened external governance and constrained managerial manipulation of disclosures. *The third period (2020–2022)* is defined by stringent regulation under the revised Securities Law (effective March 2020), which introduced severe penalties for disclosure violations. The regulatory environment became significantly more rigorous, potentially moderating the relationship between exit threats and managerial tone management by raising the cost and risk of disclosure manipulation.
 10. We are very grateful to the reviewer for this suggestion, which have helped us refine our theoretical positioning and empirical strategy.
 11. Firm names have been anonymized; excerpts are drawn from public filings.

Supplementary material

The supplementary material for this article can be found online.

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