Earnings Announcement Drift in China

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Keywords: Earnings announcement drift, state-owned enterprises, information environment, investor trading
JEL codes: G12, G14

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China exhibits significant pre-earnings announcement drift (pre-EAD) and post-earnings announcement drift (post-EAD), with pre-EAD being approximately six times larger than post-EAD, indicating primary price discovery regarding earnings news occurs before earnings announcements. Non-state-owned enterprises (NSOEs) exhibit stronger pre-EAD and weaker post-EAD than state-owned enterprises (SOEs), possibly due to the governance differences in sense that NSOEs have stronger incentives for early information disclosure. We further show that regulatory reforms aiming at improve information environments reduce post-EAD but increase pre-EAD, suggesting enhanced information dissemination and reduced trading frictions facilitate earlier incorporation of earnings news into prices. Firm-level information channels such as earnings guidance, analyst coverage, and firm visits also increase pre-EAD. Finally, using investor-type-level data, we reveal that institutional and large retail investors trade in the direction of earnings surprises pre-announcement, while small retail investors trade contrarian and incur losses.

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1. Introduction

Earnings announcement represents the most important corporate events, serving as a primary channel for listed firms to convey critical financial information to capital markets. Post-earnings announcement drift (post-EAD), characterized by a positive correlation between earnings surprises and post-announcement returns, represents one of the most resilient anomalies challenging the efficient market hypothesis (Bernard and Thomas, 1989; Fama, 1998). For the past three decades, there is a substantial body of literature demonstrating the significance of post-EAD in global capital markets. However, evidence from China, the second largest equity market in the world, presents a different pattern. Prior research finds that post-EAD became statistically insignificant in China following the mandatory adoption of International Financial Reporting Standards in 2005 (Hung et al., 2015), and its magnitude is documented to be much smaller than in the United States (Titman et al., 2022). Meanwhile, multiple researches, such as Bernard and Thomas (1989) and Martineau (2021), document pre-earnings announcement drift (pre-EAD), showing that there is a positive relation between announced earnings surprises and pre-announcement returns in the U.S. With immature information environment in China, it is possible that there might be pounced pre-EAD, while there are no existing studies on this topic.

Understanding how market behaves around earnings announcements in China, the world's second-largest economy, is of paramount significance. In addition, Chinese market offers three unique perspectives towards the study of earnings announcement drift (EAD). First, there is a notable divergence between state-owned enterprises (SOEs) and non-SOEs (NSOEs) in terms of

disclosure incentives and firm governance. Compared to NSOEs, SOEs often prioritize political and social objectives, resulting in weaker incentive for early information disclosure and a tendency to suppress negative news. Second, recent regulatory developments, such as investor interaction platforms, Mainland-Hong Kong Stock Connect and margin trading, accelerate information dissemination, enhance information processing efficiency, lower information processing cost and reduce trading frictions, which might amplify pre-EAD and attenuate post-EAD. Third, Chinese capital market is characterized by limited foreign investor access and dominant retail investor participation (Jones et al., 2025), who typically exhibit limited capacity to process fundamental information, which likely impedes timely price discovery, generating distinct drift patterns. These unique features motivate our investigation into the existence and drivers of both pre-EAD and post-EAD in China.

To be specific, our study focuses on four core research questions. First, does China exhibit EAD? Second, how does firm governance, particularly the distinction between SOEs and NSOEs, influence EAD in China? Third, how do information environment at both market and firm levels affect EAD? Finally, what are the trading behaviors of different investors around earnings announcements?

We first provide evidence on the existence of both pre-EAD and post-EAD in China. Specifically, we find that both pre-EAD and post-EAD are statistically significant in China, with pre-EAD being more pronounced than post-EAD. Pre-EAD generates abnormal returns that are approximately six times larger than those of post-EAD. The magnitude of pre-EAD in China is

particularly notable, as it accounts for more than half of the total abnormal return around earnings announcements. This pattern is consistent with the U.S. market, where pre-EAD also dominates post-EAD, but the disparity is more pronounced in China. These results suggest that the primary price discovery associated with earnings announcements in China predominantly occurs during the pre-announcement period.

Next, we examine how firm governance, particularly the distinction between SOEs and NSOEs, influences EAD in China. Our empirical results reveal that NSOEs exhibit a significantly larger pre-EAD and a weaker post-EAD compared to SOEs. Specifically, during the pre-announcement period, NSOEs generate abnormal monthly returns of approximately 2.9%, while SOEs yield 2.3%. In the post-announcement period, NSOEs exhibit weaker abnormal returns of 0.5% compared to SOEs' 0.9%. These findings suggest that earnings information for SOEs is less incorporated into stock prices before announcements, resulting in a more prolonged market reaction afterward, which highlights the role of firm governance in shaping the timing and magnitude of EAD, with NSOEs demonstrating more active information incorporation pre-announcement compared to SOEs.

For the third research question regarding how the market-level information environment shapes EAD, we examine three key regulatory reforms introduced in China aimed at enhancing information transparency and improving trading efficiency. First, the introduction of online investor interaction platforms (IIPs), such as the Shenzhen Stock Exchange's "HuDongYi" and the Shanghai Stock Exchange's "eHuDong," has significantly improved direct communication

between investors and listed firms. By treating the implementation of "HuDongYi" as an exogenous policy shock for SZSE-listed firms and using a matched sample of SHSE-listed firms as a control group, a difference-in-differences (DID) analysis indicates that the introduction of IIPs led to a significantly reduction in post-EAD. This finding suggests that reducing information processing costs and enhancing investor communication accelerate the incorporation of earnings information into stock prices after the announcement becomes public. Second, we examine the Shanghai-Hong Kong Stock Connect program, launched in November 2014. Using a DID design, we find that the launch of Hong Kong Stock Connect is followed by a marked increase in pre-EAD, consistent with greater information discovery by sophisticated foreign investors prior to the earnings announcement. In addition, we investigate the 2014 margin-lending expansion. The empirical results reveal heterogeneous effects on pre-EAD, that the reform amplifies pre-EAD for NSOEs while attenuating it for SOEs that are newly added to the eligible list. Each regulatory change re-shapes the timing and magnitude of EAD in China.

At the firm level, we examine four key channels: earnings guidance, firm visits, analyst coverage, and insider trading. Our findings demonstrate that firms providing earnings guidance and those with more frequent firm visits exhibit significantly stronger pre-EAD and weaker post-EAD. Furthermore, firms with greater analyst coverage and higher levels of insider trading tend to display more pronounced pre-EAD. Among these factors, earnings guidance and analyst coverage emerge as the most dominant influences on pre-EAD, while firm visits play a pivotal role in reducing post-EAD. Collectively, these results underscore the critical role of both market-

level and firm-level information environments in shaping earnings announcement dynamics in China.

Finally, we study how retail and institutional investors trade around the earnings announcement. Our findings reveal that prior to positive (negative) earnings news, small retail investors tend to have negative (positive) net purchases, while large retail investors and institutional investors exhibit positive (negative) net purchases. In the post-announcement period, retail investors trade after the earnings announcements in the direction that slow the adjustments of prices to the new, consist with the "news contrarian" findings in Kaniel et al. (2012), while institutional investors exhibit informed trading.

Our study is closely related to two branches of literature. First, it contributes to the extensive literature on earnings announcement drift. Most of the research on EAD focus on post-EAD, which is first identified by Bernard and Thomas (1989), and continues to exist even two decades after publication and across markets (Griffin et al., 2010; Hung et al., 2015). The persistence in post-EAD is generally attributed to limited investor attention and underreaction to earnings surprises as well as trading frictions impeding the price discovery process.[1] While post-EAD has been extensively analyzed by many academics, few studies investigate pre-EAD and examine how efficiently stock markets incorporate earnings news into stock prices before earnings announcements, especially in emerging market like China.[2] Second, this study is also related to

[1] Specifically, the persistence in post-EAD is driven by limited investor attention and under-reaction to earnings surprises (Jiang et al., 2005; Frazzini, 2006; Hirshleifer et al., 2009; DellaVigna and Pollet, 2009; deHaan et al., 2015; Hung et al., 2015; Michaely et al., 2016) as well as several trading frictions impeding the price discovery process, such as transaction costs (Bhushan, 1994; Ke and Ramalingegowda, 2005; Ng et al., 2008), arbitrage risks (Porras Prado et al., 2016) and illiquidity (Sadka, 2006; Chung and Hrazdil, 2011) and so on.

[2] Appendix Table I provide a summary of previous studied on pre-EAD. Easton et al. (2010) focus on pre-EAD,

the recent studies of China's unique market structure, highlighting three additional factors complicating the price discovery process. First, the fundamental governance structure divide between state-owned enterprises (SOEs) and non-state-owned enterprises (NSOEs) leads to distinct incentives for information disclosure and differences in corporate governance (Piotroski et al., 2015; Geng and Pan, 2024). Second, a rapidly evolving information ecosystem in China, including market-level regulatory innovations such as IIPs (Lee and Zhong, 2022; Wong et al., 2024), Mainland-Hong Kong Stock Connect (Yoon, 2021) and margin-trading (Hansman et al., 2025), as well as firm level information channels such as earnings guidance mandates (Friedman et al., 2024), firm visits (Zhang et al., 2025; Cheng et al., 2019) and analyst coverage (Andrade et al. 2013), has altered the speed and quality of information dissemination, yet its influence on EAD and the heterogeneous effects between SOEs and NSOEs remain unclear. Third, recent evidence from China indicates that retail traders are heterogeneous (Jones et al., 2025). Prior research has shown that individual investors often trade in the opposite direction of both pre-earnings announcement returns and earnings surprises, yet still achieve positive returns (Kaniel et al., 2008; Hirshleifer et al., 2008; Linnainmaa, 2010; Kaniel et al., 2012). However, there is currently no direct study examining the heterogeneity of retail investor trading behavior around earnings announcements or the impact of retail ownership and trading on EAD.

Compared with previous studies, this study makes four important contributions. First, it

defined as a predictable drift in stock prices before the earnings announcements of firms that announce their earnings later than other firms in their industry, rather than pre-EAD occurs before all firm's own earnings announcements in our paper. Gao et al. (2025) focus on earnings announcement premium which is caused by uncertainty resolution before the earnings announcement. Bernard and Thomas (1989) and Martineau (2021) document the magnitude of 3-month pre-EAD in the U.S. during different periods.

fills a critical void by providing a comprehensive analysis of EAD in China, examining both the pre-announcement and post-announcement periods. Second, it is the first to systematically investigate how the fundamental governance divides between SOEs and NSOEs influences EAD dynamics. Third, we provide a more comprehensive view of how information environments affect EAD and price discovery in China, which may help investors, regulators, and practitioners better understand the information environment in China. Finally, we leverage unique investor-type-level data to provide a granular analysis of the ownership structure and trading behaviors of different types of retail and institutional investors around earnings announcements, offering new insights into investor behavior in the Chinese market.

2. Hypotheses Development

To guide our empirical analysis, we develop the following hypotheses regarding the existence of EAD in China, the influence of firm governance and information environment on EAD.

As discussed in Ng et al. (2008), Hirshleifer et al. (2009) and Hung et al. (2015) and so on, post-EAD arises when earnings announcements convey new information, but its full incorporation into prices is impeded by factors such as limited investor attention, initial underreaction to earnings surprises, and market frictions including transaction costs and illiquidity. As for pre-EAD, according to the efficient market hypothesis (Fama, 1970), in the absence of any publicly available information prior to the earnings announcement, there should be no pre-EAD. Private information channels, such as firm visit, analyst coverage, and potential insider trading (Das et al., 2006; Lee

and So, 2017; Baruch et al., 2017; Cheng et al., 2019), alongside public channels including earnings guidance, IIPs, and social media (Beyer et al., 2010; Li et al., 2023; Cai et al., 2025; Farrell et al., 2022; Cookson et al., 2024), can enable information to reach the market prior to the formal announcement, leading to pre-announcement price drift. Given that China has a large retail-investor base with limited attention, as well as trading frictions caused by strict restrictions on short-selling and limited foreign investor access, one would expect a pronounced post-EAD in China. Furthermore, there are extensive private information channels and active public mechanisms for pre-disclosure in China, which leads us to propose our first hypothesis:

Hypothesis 1: *If Chinese earnings announcements carry important firm level information, then both pre-EAD and post-EAD exist in China.*

In China's unique market setting, SOEs and NSOEs have drastically different governance structures. Typically, the top managers of SOEs are government appointees, and SOEs are obligated to fulfill government mandates for maintaining social stability and delivering social services (Chen et al., 2012). This leads to weaker incentives for early information disclosure and less information leakage. For instance, Piotroski et al. (2015) find that SOEs may have political incentives to suppress negative information. Additionally, SOEs face less credit discrimination (Geng and Pan, 2024) and are not inclined to disclose internal firm information in order to obtain external financing. In addition, unlike NSOEs, SOEs are not solely profit-driven. The Chinese government replaced return on equity (ROE) with economic value added (EVA) in the performance score formula used to evaluate SOEs in 2010 (Du et al., 2018). Consequently, the

financial targets of SOEs are easier to achieve, and SOE managers are less likely to manipulate performance to avoid future target increases (Wei, 2021). Furthermore, SOEs generally have relatively poor information quality. Studies by Fang et al. (2017) and Chen et al. (2011) indicate that the quality of auditors does not significantly improve the quality of information in China's SOEs. When signals are noisy, such as due to low earnings quality, resolving information uncertainty might subsequently lead to a delayed price correction. Given that SOEs tend to suppress negative information, exhibit weaker incentives for early information disclosure and demonstrate lower information quality which delays price adjustments, we have our second hypothesis:

Hypothesis 2: *If NSOEs have more incentives to disclose information before earnings announcements than SOEs, they have stronger pre-EADs and weaker post-EADs than SOEs.*

To investigate how market-level information environments influence EAD in China, we focus on key regulatory innovations that reshape information dissemination and trading efficiency. Official online investor interaction platforms enhance direct communication between firms and retail investors, accelerating the price discovery of earnings information (Lee and So, 2017). Guo et al. (2024) demonstrate that real-time question-and-answer activities on these platforms during earnings announcements significantly reduce post-EAD by facilitating rapid information absorption, thereby diminishing stock price synchronicity. Concurrently, regulatory reforms reducing trading frictions may amplify pre-EAD. The introduction of margin trading, for instance, lowers arbitrage barriers and enhances market liquidity (Hansman et al., 2025), enabling faster

pre-announcement price adjustments to emerging information. Similarly, the Hong Kong Stock Connect Program expands market participation by sophisticated international investors, strengthening aggregate information-processing capacity and accelerating price adjustments to earnings signals (Yoon, 2021).

At the firm level, Chinese regulations mandate earnings guidance for listed firms if there is a significant change in earnings. Many firms also voluntarily release earnings forecasts even when not required. This practice allows the market to anticipate earnings, potentially causing a pre-announcement drift in stock prices. Beyer et al. (2010) suggest that voluntary disclosures, including management earnings forecasts and pre-announcements, can significantly impact stock price variation. Additionally, frequent investor visits are positively associated with firm performance and future returns (Cheng et al., 2019; Zhang et al., 2025). Analyst coverage contains information about expected returns (Das et al., 2006; Lee and So, 2017). We summarize the hypothesis for the information environment as follows:

Hypothesis 3: *If market-level and firm-level information environment is improved and investors have more channels to access and process earnings information before earnings announcements, the pre-EAD becomes stronger and the post-EAD becomes weaker.*

3. Data

3.1 Data Source and Sample

We obtain earnings announcement information, financial information and daily trading data from the Chinese Securities Market and Accounting Research (CSMAR) and Wind database,

which are widely used Chinese financial databases.

Our sample period is 2002Q1 to 2023Q4. We focus on the post-2002 period for two primary reasons. First, firms listed on the Shanghai and Shenzhen Stock Exchange were not required to issue quarterly reports before 2002. Therefore, to ensure the availability of consistent and comprehensive quarterly financial data, we start in 2002.[3] Second, the "Enterprise Accounting System" was implemented in 2000, followed by the introduction of "Financial-enterprise Accounting System" in 2002. To assure uniformity in accounting data, we begin our sample after the change of the accounting system. For each quarter, we include all stocks listed on the Shanghai and Shenzhen Stock Exchanges. We remove firms that are subject to special treatments (with ST, *ST, or PT labels).[4] We further exclude stocks listed for less than 6 month to avoid potentially extreme volatility and illiquidity following the IPO. These restrictions result in a final sample of 201,035 firm-quarter observations. We summarize the sample selection procedures in Appendix Table I.[5]

3.2 Measurement of Earnings Surprise

Typically, there are two ways of constructing earnings surprises. The first is the seasonal random-walk model (Livnat and Mendenhall 2006; Ng et al. 2008, Berkman et al. 2009). An advantage of this method is that it can be estimated for almost every firm-quarter. The second is the forecasting model using analysts' forecast, which provide a better surrogate for market

[3] China Securities Regulatory Commission (CSRC) required all listed firms issue quarterly reports since 2002. https://www.gov.cn/gongbao/content/2002/content_61983.htm

[4] Special treated firms trade using a different 5% daily price change limit.

[5] We find our results remain qualitatively the same in several additional robustness tests regarding the (1) dropping financial firms; (2) all quarterly earnings announcements between 2007Q1 to 2023Q4 (after the change in 2007 accounting regulation).

expectations than forecasts generated by time-series models (Fried and Givoly, 1982). However, this approach is limited by the availability of analyst forecast. In China, we choose to use the seasonal random walk model to calculate quarterly standardized unexpected earnings (*SUE*) because analysts rarely issue forecasts for quarterly earnings per share and analyst coverage is concentrated among large firms,[6] among which the post-EAD effect tends to be smaller. Restricting the sample to firm-quarters with available analyst forecasts may therefore lead to biased or unrepresentative conclusions.[7] We also provide robustness check using the second approach, and the results are reported in Section 4.6. Specifically, we compute random-walk *SUE* as follows:

$$SUE_{i,q}=\frac{EPS_{i,q}\text{-}EPS_{i,q\text{-}4}}{P_{i,q}}, \tag{1}$$

where $EPS_{i,q}$ is the earnings per share for firm i in fiscal quarter q. $EPS_{i,q\text{-}4}$ is the earnings per share from the prior year same-quarter earnings announcement, and $P_{i,q}$ is the price per share at the end of fiscal quarter q. $EPS_{i,q}$ and $P_{i,q}$ are unadjusted for stock splits, but $EPS_{i,q\text{-}4}$ is adjusted for any stock splits during the period $\{q-4, q\}$.

Following prior studies (Livnat and Mendenhall, 2006; Hirshleifer et al., 2009; Chung and Hrazdil, 2011; Hung et al., 2015), we rank the observations into quintiles based on *SUE* each fiscal quarter to address the outliers and potential nonlinearities in the earnings surprise and abnormal

[6] The coverage of analyst-based *SUE* is shown in Appendix Figure V.

[7] We employ the random-walk model to estimate SUE for two reasons. Firstly, in China, analysts rarely issue forecasts for quarterly earnings per share. Also, as pointed out by Livnat and Mendenhall (2006), using seasonal earnings changes and analyst consensus forecasts provide similar SUE effects in the U.S. We provide analyst-based SUE as a robustness check in the later section. Additionally, the Chinese capital market is characterized by substantial retail investor participation. Small traders are more likely to form their earnings expectations based on time-series models (Ayers et al., 2011).

return relationship. *RSUE* is defined as the scaled quintile rank of *SUE*, ranging from zero to one. The slope coefficient in the regression of cumulative abnormal returns on the *RSUE* can be interpreted as the magnitude of EAD when moving from the most negative *SUE* quintile to the most positive *SUE* quintile (Mendenhall 2004, Hung et al. 2015).

3.3 Measurement of Pre- and Post-earnings Announcement Cumulative Abnormal Returns

We calculate daily abnormal return by subtracting the value-weighted daily market return from individual stock's daily return, following Gao et al. (2025).[8] For each day t in [-20, +20],[9] we then obtain the cumulative abnormal returns by compounding the daily abnormal returns:

$$CAR_{i,q}[t,T]=\sum_{k=t}^{k=T} AR_{i,k}\,. \tag{2}$$

3.4 State Ownership and Other Firm Characteristics

Following Liao et al. (2014) and Geng and Pan (2024), we obtain Controlling Shareholder Data Set from Wind and construct the *SOE* dummy variable, which equals one for state-owned enterprises (SOEs) and zero otherwise. A firm is identified as a SOE if its controlling shareholder is the state-owned agency, which includes state-owned assets supervision and administration commission of the state council (central SASAC), central government institutions, local SASAC and local government institutions, and NSOE otherwise.[10] We also estimate state ownership to

[8] There are several ways to compute abnormal returns. Daily abnormal return can be obtained by subtracting the daily return of corresponding size-decile (Bernard and Thomas, 1989; Titman et al., 2022) or corresponding 1 of 25 size-B/M portfolios (Hirshleifer et al. 2009) or market index return (Kaniel et al., 2012; Hung et al., 2015) from individual stock's daily return. Results are similar when using size-adjusted or size-B/M-adjusted daily abnormal return.

[9] In this paper, we focus on the one-month EAD and define pre-earnings announcement period as days t-20 to t-2 and post-earnings announcement period as days t+2 to t+20 relative to each quarter's earnings announcement date to avoid the overlapping of pre- and post-earnings announcement periods.

[10] Listed Chinese firms disclose their ultimate controlling parties in financial reports. According to China Securities Regulatory Commission, the state is the ultimate controlling party of a firm if (i) the state controls over 50% of total shares outstanding, (ii) the state controls directly or indirectly over 30% of total voting rights, (iii) the voting rights of

capture the extent of state governance above and beyond the *SOE* dummy. We obtain attribution information on the ten largest shareholders and more precise information regarding state-owned shares among the non-tradable shares from CSMAR. State ownership is measured as the larger value of the total state shareholding ratio within firm's top 10 shareholders, and the state-owned shares within the non-tradable shares.

Following the literature (Sadka 2006, Hirshleifer et al. 2009, Huang et al. 2015), we control several firm characteristics that may affect the pre- and post-earnings announcement returns, including total accrual, earnings volatility, earnings persistence, firm size, book-to-market ratio, share turnover and institutional ownership. Appendix Table II provides a detailed description of our variable definitions. To mitigate the influence of outliers (Griffin et al. 2010, Amihud et al. 2015, Hung et al. 2015), all continuous variables except for stock returns, included in our regression analyses, are winsorized at the 1% and 99% percentile.

3.5 Descriptive Statistics

Table I tabulates descriptive statistics for the firm-quarter observations in China. *CAR [-20, -2]*, *CAR [-1, 1]*, and *CAR [2, 20]* all distribute around zero, suggesting that the market-adjusted abnormal return model is an appropriate choice for our sample. Additionally, it is observed that *CAR [-20, -2]* has a significant and negative correlation with *CAR [-1, 1]* and *CAR [-20, -2]*. Both *CAR [-20, -2]* and *CAR [-1, 1]* are positively correlated with *SUE,* except for *CAR [2, 20]* in China, indicating different EAD patterns for pre-and post-earnings announcement

the state allow it to elect over 50% of board directors, or (iv) the state has significant influence on decisions made in shareholder meetings.

periods.

4. Empirical Results

4.1 Stylized Facts of EAD in China

To investigate whether there are earnings announcement drifts in China, we first provide a visual representation of the price formation dynamics around earnings announcements. Figure I graphically depicts the average U.S. dollar-dominated CARs 20 trading days before the earnings announcement (t =−20) to 20 trading days following the announcement (T=20) for each earnings surprise quintile in both the U.S. and China. In particular, we sort all stocks each fiscal quarter into quintiles according to their SUE (Q1 contains the stocks with the most negative earnings surprise and Q5 the stocks with the most positive earnings surprise). If there is pre- or post-EAD, abnormal returns before or after the announcement should be monotonically related to the signed earnings surprise.

Three key patterns emerge. First, both markets exhibit pronounced and monotonic price drifts before and after the earnings announcements. Second, the magnitude of these drifts differs across countries: in the pre-announcement window [-20, -2], the CARs for the most positive (negative) *SUE* quintiles are 1.43% (-1.42%) in China versus 1.20 % (-0.64%) in the U.S.; in the post-announcement window [+2, +20] the corresponding figures are 1.25% (1.08%) in China and 1.16% (-0.12%) in the U.S. Thus, the post-EAD is substantially stronger in the U.S., whereas the pre-EAD dominates in China. Third, the pre-announcement proportionate drift, defined as the fraction of the total price response that is realized before the announcement, i.e. *CAR [-20, -2]/CRA*

[-20, 20], corroborates this asymmetry. In the U.S., the pre-announcement proportionate drift contributes to 26% of the total drift around earnings announcements, compared to 19% proportionate drift after the announcement. China demonstrated a more pronounced pre-EAD and a comparatively weaker post-EAD than the U.S., with 51% pre-announcement proportionate drift and only 3% post-announcement proportionate drift, suggesting that the primary price discovery associated with earnings announcements in China predominantly occurs during the pre-announcement period.

Panel A of Table II presents the pooled average mean of *SUE*, cumulative abnormal pre-announcement, announcement, and post-announcement returns. The observed patterns are consistent with Figure I and prior studies. The three-day abnormal earnings announcement return shows a monotonic relationship with earnings surprises. Both pre- and post-announcement returns display a nearly monotonic trend. Notably, significant pre-announcement cumulative abnormal returns are associated with substantial post-announcement returns, indicating a price momentum effect.

In order to control for possible sources of variation in the relation between EADs and earnings surprises, we then perform a secondary analysis to examine whether there are EADs in China and conduct multivariate regressions to examine Hypothesis 1 by estimating the following panel regressions:

$$CAR_{i,q}=a_0+a_1 RSUE_{i,q}+a_2^{'} Controls_{i,q}+FirmFE_i+TimeFE_q+\varepsilon_{i,q}, \quad (3)$$

where the dependent variable $CAR_{i,q}$ is the cumulative abnormal returns over pre-announcement,

announcement, and post-announcement periods for firm i in fiscal quarter q. *RSUE* is the scaled quintile rank of *SUE*, ranging from zero to one, in every fiscal quarter. The coefficient, a_1, represents the magnitude of EAD when moving from the bottom *SUE* quintile to the top quintile or can be interpreted as the differences in cumulative abnormal returns between the most positive and most negative *SUE* quintiles. We follow existing studies to select control variables that potentially affect EAD as follows: total accruals (*Accrual*), earnings volatility (*EarnVol*), earnings persistence (*Earnpersist*), the natural logarithm of firm's market capitalization (*Lnsize*), book to market ratio (*BM*), quarterly turnover (*Turnover*) and institutional ownership (*INST*). To control for price momentum effect, we include returns from previous month (*LmRet*). Detailed definitions of variables are in the Appendix Table II. We also add firm and year-quarter fixed effects to control for industry effect and pure time variation across quarters. Following previous literature, the standard errors are double clustered at firm and year-quarter levels. If there is EAD in China, a_1 should be positively significant.

The estimation results in Table II Panel B provide supportive evidence for Hypothesis 1 that China exhibits statistically and economically significant pre-EAD and post-EAD. Crucially, pre-EAD dominates post-EAD in magnitude. The coefficients on *RSUE* are 0.0264 (t=13.53) for the pre-announcement window, 0.0271 (t=12.13) for the three-day announcement window, and 0.0043 (t=2.22) for the post-announcement window. This pattern indicates that earnings announcements convey new information to the market, with significant price discovery occurring both before and after the event. Economically, pre-EAD generates monthly abnormal returns of

2.64%, substantially exceeding post-EAD's 0.43%. After controlling for firm characteristics, the magnitude of pre-EAD is approximately six times larger than that of post-EAD. This asymmetry underscores pre-EAD as the dominant component of the earnings announcement drift in China. When benchmarked against U.S. markets, China's post-EAD is notably weaker. Table II Panel C shows the estimation results for the U.S. market. The coefficients on *RSUE* are 0.0196 (t=10.89) for the pre-announcement window, 0.0453 (t=38.09) for the three-day announcement window, and 0.0171 (t=6.18) for the post-announcement window. Compare to 5.2% annualized post-EAD return in China, we find a 20.5% annualized post-EAD return in the U.S., consistent with the findings in Bernard and Thomas (1989), which documented annualized post-EAD returns in the U.S. of about 19% (1974-1986), and Hung et al. (2015), which imply approximately 16% annualized returns (2006-2007). This discrepancy highlights China's distinct price discovery dynamics.

4.2 Firm Governance and EAD in China

Next, we examine Hypothesis 2 by investigating how firm governance, specifically differentiated by state ownership, on EAD within the Chinese market. A firm is classified as an SOE if it has one or more state-owned agencies among its ultimate controlling shareholders.

Figure II presents the U.S. dollar-dominated cumulative abnormal returns (CARs) for *SUE*-sorted portfolios for both SOEs and NSOEs in China. The results show that NSOEs exhibit a more pronounced pre-EAD and a weaker post-EAD compared to SOEs. This finding suggests that information related to negative earnings surprises for NSOEs tends to be incorporated into stock prices to a greater extent before the official earnings announcements. During the pre-

announcement period, the CARs for the most positive (negative) *SUE* quintiles are 1.38% (-1.62%) in NSOEs versus 1.41 % (-0.98%) in SOEs; in the post-announcement window, the corresponding figures are 1.53% (1.51%) and 0.99% (0.55%). The results for proportionate drift are consistent with these findings. For SOEs, the market reaction before (after) earnings announcements accounts for 46% (9%) of the total market reaction around earnings announcements. In contrast, for NSOEs, a 51% of the total market reaction around earnings announcements occurs during the pre-announcement period, while only 0.3% occurs in the post-announcement period.

Panel A of Table II shows the pooled average mean of *SUE*, cumulative pre-announcement, announcement, and post-announcement abnormal returns for both SOEs and NSOEs. Although SOEs exhibit slightly larger *SUE* than NSOEs, the absolute values of pre-announcement abnormal returns for both the most positive and most negative *SUE* quintiles are smaller in SOEs than in NSOEs. For negative earnings surprises, the post-announcement abnormal returns are more pronounced in SOEs than in NSOEs. This finding is consistent with Piotroski et al. (2015), suggesting that SOEs may have incentives to suppress negative information.

Similarly, we further estimate the following equations to examine the influence of state ownership on EAD:

$$CAR_{i,q}=a_0+a_1RSUE_{i,q}+a_2SOE_{i,q}+a_3RSUE_{i,q}\times SOE_{i,q}+a_4^{'}Controls_{i,q}+IndustryFE+TimeFE_q+\varepsilon_{i,q}. \quad (4)$$

Here, the dependent variable $CAR_{i,q}$ is the cumulative abnormal returns over pre-announcement, announcement, and post-announcement periods for firm i in fiscal quarter q. *RSUE* is the scaled quintile rank of *SUE*, ranging from zero to one, in every fiscal quarter. *SOE* dummy equals one for

SOEs and zero otherwise. The interaction term a_3 captures the difference in EAD between SOEs and NSOEs. A positive a_3 would suggest larger EAD for SOEs. Control variables are the same as those in Table II. We further control for industry and year-quarter fixed effects and cluster the standard errors at the firm and year-quarter levels.

The results in Table III Panel B strongly support Hypotheses 2. Columns (1) and (2) show significantly negative coefficients on the interaction term, *SOE*×*RSUE*, while column (3) shows a significantly positive coefficient. This indicates that, compared to NSOEs, SOEs exhibit smaller pre-EAD, smaller three-day earnings announcement market reaction, and larger post-EAD. The economic significance is notable, with SOEs experiencing a 0.64% (i.e., the coefficient on *SOE*×*RSUE*) decrease in monthly abnormal returns generated by pre-EAD and a 0.34% increase in monthly abnormal returns generated by post-EAD, relative to NSOEs. In terms of the proportionate drift, after controlling other firm characteristics, the difference in pre-announcement, announcement and post-announcement proportionate drift between the SOEs and NSOEs are -4.31%, -3.11% and 7.42%, respectively.[11]

Additionally, we examine state ownership in listed firms to further capture the extent of state governance beyond the SOE dummy. The results in Table III Panel C show significantly negative coefficients on the interaction term in columns (1) and (2), and a significantly positive coefficient on the interaction term in columns (3), indicating that firms with higher government holdings have smaller pre-EAD and earnings announcement returns, as well as larger post-EAD.

[11] Detailed calculation of proportionate drift is shown in Appendix Table IV.

Economically speaking, a 1% increase in total government equity holdings is associated with a 0.015% decrease of monthly abnormal return generated by pre-EAD and a 0.008% increase of monthly abnormal return generated by post-EAD.

Overall, the findings in Table III corroborate our conclusion that NSOEs exhibit a more pronounced pre-EAD and a weaker post-EAD compared to SOEs, which suggests that earnings information of NSOEs is incorporated into stock prices more actively before the official earnings announcements, while SOE earnings news leads to a more prolonged market reaction after the announcement. This could occur through various channels, such as less rigorous internal controls on private information, more active communication with analysts and investors ahead of official announcements, or a higher level of trading by informed insiders. We will further discuss the possible explanations on the differences of EAD between SOEs and NSOEs in the later Sections.

4.3 Market-Level Information Environment and EAD in China

Price discovery around earnings announcements is shaped jointly by market- and firm-level information environments. As for the market-level information environment, we focus on regulatory improvements in China's equity market, particularly the introduction of investor interaction platforms (IIPs), the initiative of Hong Kong Connect Program and the implementation of margin trading.

In 2010, the Shenzhen Stock Exchange introduced the "HuDongYi" platform, followed by the Shanghai Stock Exchange's "eHuDong" platform in 2013, both aimed at enhancing online communication between listed companies and investors. To assess the impact of IIPs on EAD, we

use the implementation of "HuDongYi" as an exogenous policy change for SZSE-listed firms. We then create a matched control sample of 591 SHSE-listed stocks. These stocks are matched by the industry, state ownership, and market capitalization at the end of 2009, as well as the quarterly turnover of 2009Q4. As a distance metric, we compute the absolute value of the proportional market-cap difference between the SHSE-listed match candidate and the SZSE-listed stock plus the analogous absolute value of the proportional quarterly turnover difference. For each SZSE-listed firms, we choose with replacement the SHSE-listed firm that is in the same industry, the same ownership nature, and has the smallest distance measure. Panel A of Table IV confirms the quality of the matching procedure, showing that market cap and are statistically indistinguishable between the treatment and control groups, while the quarterly turnover is slightly higher for treatment group. Subsequently, we estimate the following difference-in-differences (DID) regressions:

$$CAR_{i,q}=a_0+a_1 Post_q\times Treat_i\times RSUE_{i,q}+a_2 RSUE_{i,q}\times Post_q+a_3 Treat_i\times Post_q$$
$$+a_4 Treat_i\times RSUE_{i,q}+a_5 RSUE_{i,q}+a_6' Controls_{i,q}+FirmFE_i+TimeFE_q+\varepsilon_{i,q}, \quad (5)$$

where $Post_q$ is an indicator for IIP-post-event period, which equals to 1 if the earnings announcement year is 2011 or 2012, and 0 if it is year 2008 or year 2009. $Treat_i$ is an indicator variable that takes the value of 1 for firms *i* included in the treatment group (defined as firms listed on the Shenzhen stock exchange) and it takes the value of 0 for the matched SHSE-listed companies. We report the estimation results in Table IV Panel B. For post- announcement *CAR*s, the significantly negative coefficient in column (3) on *Post*×*RSUE*×*Treat* indicates that treatment

firms experienced a reduction in post-EAD following the introduction of "HuDongYi".

In November 2014, the Shanghai-Hong Kong Stock Connect was established, followed by the Shenzhen-Hong Kong Stock Connect in December 2016. In March 2010, China introduced a pilot program to permit margin trading for designated stocks, with the eligible stock list subsequently expanded. To assess the impact of margin trading and Hong Kong Connect on EAD, we focus on the launch of Shanghai-Hong Kong Connect program and the 2014 margin-lending expansion as exogenous shocks. Then we employ the DID specification in Equation (5).

For Hong Kong Stock Connect, we study the opening of the Shanghai-Hong Kong Stock Connect program in 2014. *Post* is an indicator for post-event period, which equals to 1 for quarterly earnings announcements between 2014Q4 and 2016Q3 and equals to 0 for quarterly earnings announcements between 2012Q4 and 2014Q3. *Treat* is an indicator variable that takes the value of 1 for firms included in the treatment group (defined as firms included in the program in 2014) and it takes the value of 0 for the matched non-eligible stocks (defined as firms not included in the program before 2014). We also exclude companies that were selected for the program but were later removed.

For margin trading, *Post* is an indicator for post-event period, which equals to 1 for quarterly earnings announcements between 2014Q3 and 2016Q3 and equals to 0 for quarterly earnings announcements between 2012Q2 and 2014Q2. *Treat* is an indicator variable that takes the value of 1 for firms included in the treatment group (defined as firms added into the margin

trading eligible list in 2014) and it takes the value of 0 for the matched[12] non-shortable stocks (defined as firms not added into the list before 2014). To do the test, we exclude companies that were selected but later removed from the list, we also exclude stocks whose trading status is marketed as "selling only" to ensure both buying and selling is available on the stock.

The estimation results are reported in Table IV Panels C and D. For pre-announcement *CAR*, the significantly positive coefficient in column (1) on *Post*×*RSUE*×*Treat* indicates that treatment firms experienced an increase in pre-EAD following the initiative of Hong Kong Stock Connect. We find no significant impact of margin trading on EAD in all firms.

We further conduct sub-sample analyses to investigate the interaction between the market-level information environment and firm governance. The results, reported in Table IV Panel E, show that the reduction of post-EAD by IIPs and the increase of pre-EAD by Hong Kong Stock Connect mainly affects SOEs. As for the influence of margin trading, the empirical results reveal heterogeneous effects on pre-EAD, that the 2014 extension amplifies pre-EAD for NSOEs while attenuating it for SOEs that are newly added to the eligible list.

4.4 Firm-Level Information Environment and EAD in China

In terms of firm-level information environment, we consider earnings guidance mandates, firm visits, analyst coverage and insider trading in China to examine Hypothesis 3.

Earnings announcements and earnings guidance are two key channels through which firms communicate with capital markets. Regulations on information disclosure of listed companies

[12] Similar to the matching procedure for IIPs, for each eligible firms, we choose with replacement the non- eligible firms that is in the same industry and has the smallest distance measure. The matching procedure for HKC is also the same.

have experienced several adjustments in China. For main board-listed companies, annual earnings guidance has been semi-mandatory since 2005. Firms must issue earnings guidance within a specified time when certain earnings criteria are met, such as anticipated losses, profit turnarounds, or significant earnings changes. In 2022, the same semi-mandatory regime was extended to semi-annual reports. By contrast, the Growth Enterprise Market (GEM) and the Small and Medium Enterprises (SME) board once required firms to issue earnings guidance irrespective of the magnitude or direction of earnings, but this this blanket requirement was subsequently rescinded.

We source earnings guidance data from the CSMAR database, which is available since 2005Q1. To specifically examine the impact of earnings guidance and mitigate the confounding effects of guidance revisions, we exclude earnings announcements with guidance revisions from our analysis. We define an earnings guidance indicator variable, *DGuide*, which equals 1 if a company issues earnings guidance before the earnings announcement and 0 otherwise.

In addition to corporate disclosures, investors often conduct firm visits prior to the earnings announcements, and analysts issue earnings forecasts. We gather firm visits data from CSMAR Database, covering the period from 2013Q1 to 2024Q4, and analyst forecast data from the Suntime Database, available since 2005Q4. We construct indicator variables for firm visit, *DVisit,* and analyst coverage, *DAna*. Specifically, for each fiscal quarter, we divide all stocks into two groups based on whether the number of firm visits (*QVisitNum*) or the number of individual analysts issuing earnings forecasts (*QAnaNum*) exceeds the median. *DVisit* and *DAna* are assigned a value of one if *QVisitNum* and *QAnaNum* exceed the median, and 0 otherwise.

Beyond the improvement of firm-level information environment, we also consider the impact of insider trading on EAD. We obtain insider trading data from CSMAR, which is available since 2005Q1. Following Beneish and Vargus (2002), we mainly focus on open market (public) insider transactions, including auction trading, secondary-market trading, and block trading. We also exclude transactions of fewer than 100 shares because these are unlikely to represent information-motivated trading. Insiders are defined to include directors, supervisors, senior executives, core technical staff, board secretaries, and securities affairs representatives. We then calculate *QInsiderTrade(%)*, the proportion of shares traded by insiders relative to total outstanding shares each fiscal quarter. *DInsider* equals 1 if *QInsiderTrade(%)* is above the median and 0 otherwise.

Table V Panel A presents firm-quarter pooled summary statistics on earnings guidance, quarterly firm visits, individual analyst followers, and insider trading for all firms, SOEs and NSOEs. For all firms, 42% of earnings announcements are accompanied by earnings guidance. The average number of quarterly firm visits, individual analyst followers and insider trading are 1.14, 5.82 and 0.11 respectively. Notably, NSOEs demonstrate a higher propensity for providing earnings guidance, with a coverage rate of 47%, compared to 33% for SOEs. This difference suggests that NSOEs are more inclined to offer information to the market. Similarly, NSOEs exhibit more frequent quarterly firm visits, averaging 1.17 visits per quarter, whereas SOEs average 1.03 visits. This indicates a greater openness or incentive for NSOEs to engage in direct communication with analysts and investors. Furthermore, the insider trading ratio is higher for

NSOEs (0.17) than for SOEs (0.01), potentially pointing towards more active informed insider trading in NSOEs. However, one metric diverges from this trend: SOEs have a higher average number of individual analyst followers, at 5.98, compared to 5.73 for NSOEs. This could be attributed to the typically larger size of SOEs, which naturally attract more analyst coverage despite their potentially lower engagement in other forms of proactive communication. Panel B of Table IV presents the pooled average *SUE* and *CAR* across pre-announcement, announcement, and post-announcement periods, conditioned on different *SUE* quintiles and the four firm-level information environment measures. For firms with earnings guidance, firm visits, high analyst coverage, and insider trading, the absolute pre-announcement abnormal returns for the most positive and most negative *SUE* quintiles are significantly larger than those for firms without earnings guidance, fewer firm visits, low analyst coverage, and no insider trading.

To further investigate the influence of firm-level information environment on EAD, we then estimate the following panel regressions:

$$CAR_{i,q}=a_0+a_1RSUE_{i,q}+a_2FirmIE_{i,q}+a_3RSUE_{i,q}\times FirmIE_{i,q}+a_4^{'}Controls_{i,q} +IndustryFE+TimeFE_q+\varepsilon_{i,q}, \quad (6)$$

where firm-level information environment measure *FirmIE* includes earnings guidance indicator (*DGuide*), firm visit and analyst coverage indicators (*DVisit* and *DAna*), as well as the insider trading indicator (*DInsider*). The dependent variable $CAR_{i,q}$ is the cumulative abnormal returns over pre-announcement, announcement, and post-announcement periods for firm *i* in fiscal quarter *q*. *RSUE* is the scaled quintile rank of *SUE* in every fiscal quarter. Control variables are the same

as those in Table II. We further control for industry and year-quarter fixed effects and cluster the standard errors at the firm and year-quarter levels.

Table VI Panels A and B report the estimation results for earnings guidance and firm visits. The significant positive coefficients on the interaction terms for pre-announcement *CAR*, coupled with the significant negative coefficients for post-announcement *CAR*, indicate that firms with earnings guidance and frequent firm visits exhibit stronger pre-EAD and weaker post-EAD. Panels C and D of Table V present the results for analyst coverage and insider trading. For pre-announcement *CAR*, the interaction term coefficients are 0.0106 for analyst coverage and 0.0057 for insider trading, both statistically significant. However, these two factors do not significantly impact post-EAD. When considering all four factors together in Panel E, it is evident that earnings guidance and analyst coverage play a dominant role in enhancing pre-EAD, while firm visits are the primary factor in reducing post-EAD.

Further, we examine the interaction between these four firm-level information environment channels and firm governance by estimating the following panel regressions:

$$CAR_{i,q}=a_0+a_1RSUE_{i,q}+a_2SOE_{i,q}+a_3FirmIE_{i,q}+a_4RSUE_{i,q}\times FirmIE_{i,q}$$
$$+a_5RSUE_{i,q}\times SOE_{i,q}+a_6SOE_{i,q}\times FirmIE_{i,q}+a_7SOE_{i,q}\times RSUE_{i,q}\times FirmIE_{i,q}$$
$$+a_8^{'}Controls_{i,q}+IndustryFE+TimeFE_q+\varepsilon_{i,q}. \quad (7)$$

We report the empirical results in Table V Panels E, which show that state ownership amplifies the positive effect of earnings guidance on pre-EAD but reduces the impact of firm visits and analyst coverage.

4.5 Investor Trading around Earnings Announcements in China

How retail and institutional investor trade around earnings announcement and do they gain by trading on pre-announcement information in China? We obtain data from one major stock exchange in China, which contains the investor-type level trading and holding history of all stocks listed on the exchange from all investors, between 2014Q1 and 2020Q2. Following Jones et al. (2025), the accounts of this proprietary data set are grouped into 3 major categories based on investor identities: retail (RT), institutional (INST), and corporations (CORP). Retail investors are further stratified into 2 groups based on their account sizes at the beginning of each year: below 10 million CNY (SmallRT), and above 10 million CNY (LargeRT)[13]. For each investor group *G*, day *t*, and stock *i*, we construct the net investor trading measure by first computing the investor imbalance measure (*Oib*), that is, by subtracting the daily value of the shares sold from the value of shares bought and dividing by the average total daily RMB volume in the calendar year:

$$Oib_{itG}=\frac{RMB\ Buy\ Vol_{itG}\text{-}RMB\ Sell\ Vol_{itG}}{Average\ daily\ volume\ in\ the\ calender\ year_{it}}. \tag{8}$$

We then subtract from the imbalance measure the daily average of individual imbalances over the sample period to get the net individual trading measure, and compute for each stock the cumulative net investor trading measure over certain periods.

$$NetTrade_{itG}=Oib_{itG}\text{-}\frac{1}{T}\sum_{all\ days\ in\ 2014\text{-}2020} Oib_{itG}, \tag{9}$$

$$NetTrade_{iG}[m,n]=\sum_{k=t}^{T} NetTrade_{ikG}. \tag{10}$$

[13] We first stratify retail investors into 5 groups based on their account sizes: below 100,000 CNY (RT1), 100,000–500,000 CNY (RT2), 500,000–3 million CNY (RT3), 3 million–10 million CNY (RT4), and above 10 million CNY (RT5). We find similar holding and trading behavior of RT1-RT4 around earnings announcements.

Figure III present analysis of cumulative net investor trading around positive (Q5) and negative (Q1) earnings announcements. We find that prior to positive (negative) earnings news, naïve retail investors tend to have negative (positive) net purchases, while large retail investors and institutional investors exhibit positive (negative) net purchases. In the post-earnings announcement period, retail investors trade after the earnings announcements in the direction that slow the adjustments of prices to the new, consist with the "news contrarian" findings in Kaniel et al. (2012). Conversely, institutional investors trade in the same direction as the earnings surprise.

We next examine the investor trading dynamics around earnings announcements by estimate the following regressions:

$$NetTrade_{idG}=a_0+\sum_{k\in Events}\beta_{k,G}I_{d=k}+FirmFE_i+DayFE_d+\varepsilon_{i,d,G}, \quad (11)$$

where the dependent variable is net individual trading measure (*NetTrade*) for each investor group *G*, day *d*, and stock *i*. $I_{d=k}$ indicates earnings announcement event dates. The parameter $\beta_{k,G}$ captures the relative order imbalance of investor group G on earnings announcement event k compared with non-event days. We further control for firm and day fixed effects. T-statistics based on standard errors double-clustered at the stock and day levels. Panel A of Table VII presents the results. For negative earnings news, institutional investors sell around the earnings announcements, while small retail investors buy before and during the announcements. In contrast, large retail investors buy after the announcements. For positive earnings news, institutional investors buy during and after the announcements, whereas retail investors sell during and after the announcements.

We then examine the relationship between investor holding, net trading and earnings announcements returns by estimating the following regressions:

$$CAR_{i,q}=a_0+a_1X_{i,q}+a_2RSUE_{i,q}+a_3^{'}Controls_{i,q}+IndustryFE+TimeFE_q+\varepsilon_{i,q}. \quad (12)$$

Here, $X_{i,q}$ includes the investor holding and net trading measures. Investor shareholding, *Hold*, is the number of shares held by investor group *G* dividend by the total shares of stock *i* at the end of fiscal quarter *q*. Investor net trading, *NetTrade*, is the cumulative net investor trading measure over certain periods.

Our analysis of investor holdings, detailed in Table VII Panel B, provides insights into how different investor groups interact with pre-EAD based on firm attributes. For SOEs, a higher proportion of shares held by large retail investors correlates with a weaker pre-EAD. For non-SOEs, an increased shareholding by small retail investors is linked to a smaller pre-EAD, whereas greater shareholding by institutional investors is associated with an enhanced pre-EAD. Additionally, small companies with larger retail investor holdings tend to exhibit a more pronounced pre-EAD. These findings underscore the nuanced relationship between investor behavior, firm governance, and market dynamics.

The estimation results for net investor trading are presented in Table VII Panel C. For pre-earnings announcement returns, the coefficient is significantly negative for small retail investors, while the coefficients are significantly positive for large retail investors and institutional investors. For post-earnings announcement return, the predictive power of small retail investor net trading is significantly negative. The results may suggest that institutions and large retail investors gain

profits from their trading around earnings announcement, whereas small retail investors could incur losses.

4.6 Robustness Checks

We consider several robustness checks on our findings and report the estimation results in Table VIII. We check if the results are sensitive to the way *SUE* and cumulative abnormal returns are measured. We find that the results are quite similar when we use cumulative size-adjusted or size-B/M adjusted abnormal returns.

However, when we replace our random-walk *SUE* with analyst-based *SUE,* the interaction term *SOE*×*RSUE* loses significance. We attribute this attenuation to sample selection: analysts disproportionately cover large firms with relatively low information asymmetry. Consistent with this channel, the coefficient of *SOE*×*RSUE* on pre-earnings announcement abnormal return becomes significant when we restrict the sample to large firms above the median market capitalization.

5. Conclusion

This study explores earnings announcement drift (EAD) in China, including both pre-earnings announcement drift (pre-EAD) and post-earnings announcement drift (post-EAD). We aim to fill the literature gap, especially on pre-EAD by providing direct evidence on the existence and explanations of EAD in China.

We find significant pre-EAD and relatively weaker post-EAD in China, suggesting that primary price discovery occurs before earnings announcements. This pattern is more pronounced

in non-state-owned enterprises (NSOEs). Our analysis reveals that earnings guidance and firm visits significantly strengthen pre-EAD and weaken post-EAD. Higher analyst coverage and insider trading are associated with larger pre-EAD. The introduction of online investor interaction platforms contributes to a weaker post-EAD and the initiative of Hong Kong Stock Connect increase pre-EAD, while the extension of margin trading amplifies pre-EAD for NSOEs while attenuating it for SOEs that are newly added to the eligible list. We also find that small retail investors trade opposite to earnings surprises that slow the adjustments of prices to the new, while institutional investors exhibit informed trading.

This study contributes to the understanding of EAD in emerging markets and provides insights into the information environment and investor behaviors in China. It offers a comprehensive view of how firm governance and information environment influence EAD and price discovery in China. The findings help investors, regulators, and practitioners better understand the information environment in China and have implications for market efficiency and investor welfare.

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Table I. Descriptive Statistics

This table presents the descriptive statistics of the firm-quarter sample. Our sample covers all quarterly earnings announcements between 2002Q1 and 2023Q4 for firms listed on the Shanghai stock exchange (SHSE) and Shenzhen stock exchange (SZSE), except for observations with ST, *ST or PT labels or listed less than 6 months. Panel A present the number of observations, mean, standard deviation, 25th percentile, median, 75th percentile for the firm-quarter variables. Pre-earnings announcement return, *CAR [-20, -2]*, is defined as the cumulative abnormal return computed over days *t*-20 to *t*-2 relative to each quarter's earnings announcement date by compounding the daily abnormal returns, and we require a firm to have at least 15 nonzero daily returns during pre-earnings announcement period. Daily abnormal return is obtained by subtracting the value-weighted daily market return from individual stock's daily return. The three-day announcement return *CAR [-1, 1]* is defined as the cumulative abnormal return computed over days *t*-1 to *t*+1 relative to each quarter's earnings announcement date. Similarly, post-earnings announcement return *CAR [2, 20]* is defined as the cumulative abnormal return computed over days *t*+2 to *t*+20 relative to each quarter's earnings announcement date and we require at least 15 nonzero daily returns during post-earnings announcement period. Standardized unexpected earnings (*SUE*) are estimated as the unexpected earnings (EPS in quarter *t* minus EPS in quarter *t*-4) scaled by end-of-quarter stock prices. *SOE* dummy equals one for SOEs and zero otherwise. State ownership, *StateOwn,* is defined as the larger value of the total state shareholding ratio within firm's top 10 shareholders, and the state-owned shares within the non-tradable shares. For other stock characteristics, we report the total accruals (*Accrual*), earnings volatility (*EarnVol*), earnings persistence (*Earnpersist*), natural logarithm of firm's market capitalization (*Lnsize*), book to market ratio (*BM*), quarterly turnover (*Turnover*) and institutional ownership (*INST*). All continuous variables except for stock returns are winsorized at the 1% and 99% percentile. Panels B presents the Pearson correlations for the key and control variables. The correlations in bold represent being significant at the 5% level. Detailed definitions of variables are in the Appendix Table III.

Panel A. Full Sample Summary Statistics

Variables	*Obs.*	*Mean*	*Std*	*P25*	*P50*	*P75*
SUE	162966	-0.0002	0.0076	-0.0009	0.0001	0.0011
CAR [-20, -2]	200837	-0.0005	0.1226	-0.0623	-0.0118	0.0459
CAR [-1, 1]	201035	-0.0016	0.0618	-0.0295	-0.0039	0.0228
CAR [2, 20]	200837	0.0113	0.1114	-0.0506	-0.0020	0.0556
SOE	179741	0.3922	0.4883	0	0	1
StateOwn	168558	0.1870	0.2412	0.0000	0.0278	0.3820
Accrual	189388	0.0033	0.1517	-0.0476	0.0054	0.0595
EarnVol	162045	0.1225	0.1490	0.0392	0.0736	0.1433
Earnpersist	162045	-0.8358	4.8138	-0.5021	0.0395	0.4946

Lnsize	201035	22.0176	1.2580	21.1897	21.9595	22.7553
BM	200870	0.7992	0.7052	0.3517	0.5968	1.0135
Turnover	201035	1.4829	1.4254	0.5284	1.0211	1.9299
INST	194429	0.4123	0.2556	0.1824	0.4286	0.6202

Panel B. Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) *SUE*	1												
(2) *CAR [-20, -2]*	**0.061**	1											
(3) *CAR [-1, 1]*	**0.077**	**-0.059**	1										
(4) *CAR [2, 20]*	**-0.016**	**-0.069**	**-0.008**	1									
(5) *SOE*	0.004	**0.009**	**-0.011**	**-0.019**	1								
(6) *StateOwn*	**0.009**	**0.017**	**-0.005**	**-0.020**	**0.864**	1							
(7) *Accrual*	**0.108**	**0.009**	**-0.007**	**-0.011**	**-0.055**	**-0.048**	1						
(8) *EarnVol*	**-0.044**	**-0.023**	0.003	**-0.006**	**-0.064**	**-0.073**	**-0.079**	1					
(9) *Earnpersist*	0.000	**-0.008**	-0.003	-0.002	**0.084**	**0.049**	**-0.014**	**0.046**	1				
(10) *Lnsize*	**0.055**	-0.004	**0.033**	**-0.073**	**0.147**	**0.179**	0.003	**0.112**	**0.099**	1			
(11) *BM*	**-0.047**	-0.001	-0.001	**0.009**	**0.163**	**0.240**	**-0.040**	**-0.045**	**-0.080**	**-0.260**	1		
(12) *Turnover*	**0.012**	**-0.023**	**-0.033**	**0.022**	**-0.180**	**-0.211**	**0.025**	**0.050**	**-0.007**	**-0.208**	**-0.121**	1	
(13) *INST*	**0.012**	**0.030**	**0.023**	**-0.030**	**0.342**	**0.546**	**-0.039**	**-0.012**	**0.016**	**0.360**	**0.098**	**-0.240**	1

Table II. Earnings Announcement Drift in China and the U.S.

This table reports the results regarding the existence of Pre-EAD and Post-EAD in both China and the U.S. Our sample covers all quarterly earnings announcements between 2002Q1 and 2023Q4 for firms listed on the SHSE and SZSE, except for observations with ST, *ST or PT labels or listed less than 6 months. Panel A presents the stylized facts for earnings announcement drift in both China and the U.S. Each fiscal quarter stocks are classified in one of five groups according to their earnings announcement surprise (*SUE*) quintile. Standardized unexpected earnings (*SUE*) are estimated as the unexpected earnings (EPS in quarter *t* minus EPS in quarter *t*-4) scaled by end-of-quarter stock prices. Pre-earnings announcement return *CAR [-20, -2]* is defined as the cumulative abnormal return of the firm computed over days *t*-20 to *t*-2 relative to each quarter's earnings announcement date. Daily abnormal return is obtained by subtracting the value-weighted daily market return from individual stock's daily return. Similarly, post-earnings announcement return *CAR [2, 20]* is defined as the cumulative abnormal return of the firm computed over days *t*+2 to *t*+20 relative to each quarter's earnings announcement date. The three-day announcement return *CAR [-1, 1]* is defined as the cumulative abnormal return of the firm computed over days *t*-1 to *t*+1 relative to each quarter's earnings announcement date. In Panel B and C, we estimate the panel regression, as specified in equation (3) for both China and the U.S. The independent variables are cumulative abnormal returns (*CAR*) during the pre-earnings announcement (*t* = -20 to -2), three-day announcement return (*t* = -1 to 1) and post-earnings announcement (*t* = +2 to +20) periods. *RSUE* is the scaled quintile rank of *SUE*, ranging from zero to one, in every fiscal quarter. Controls are the fiscal-quarter-end firm characteristic, including total accruals (*Accrual*), earnings volatility (*EarnVol*), earnings persistence (*Earnpersist*), natural logarithm of firm's market capitalization (*Lnsize*), book to market ratio (*BM*), quarterly turnover (*Turnover*), institutional ownership (*INST*), and we also control for returns from previous month (*LmRet*). Detailed definitions of variables are in the Appendix Table III. We also control for firm and year-quarter fixed effects. The t-statistics are calculated based on standard errors double clustered at the firm and year-quarter levels. Coefficients and statistics marked with *, **, and *** are significant at the 10%, 5%, and 1% levels, respectively.

Panel A. Stylized Facts for Earnings Announcement Drift: *SUE* and *CAR* Patterns

	China				*US*			
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Quintile	*SUE*	*CAR [-20, -2]*	*CAR [-1, 1]*	*CAR [2, 20]*	*SUE*	*CAR [-20, -2]*	*CAR [-1, 1]*	*CAR [2, 20]*
Q1	-0.0073***	-1.35%***	-1.18%***	1.30%***	-0.1092***	-0.92%**	-2.35%***	-0.57%*
Q2	-0.008***	-0.79%**	-0.90%***	1.06%***	-0.0065***	-0.62%***	-1.05%***	-0.19%
Q3	0.0001**	-0.25%	-0.20%**	1.06%***	0.0007***	-0.13%	-0.02%	0.08%
Q4	0.0009***	0.47%	0.58%***	1.09%***	0.0067***	0.31%**	1.19%***	0.40%***
Q5	0.0060***	1.49%***	1.26%***	1.32%***	0.0948***	1.31%***	2.26%***	1.27%***

Panel B. Multivariate Regression: EAD in China

Dep.var	*CAR [-20, -2]*		*CAR [-1, 1]*		*CAR [2, 20]*	
	(1)		(2)		(3)	
Variables	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
RSUE	0.0264***	13.53	0.0271***	12.13	0.0043**	2.22
Accrual	0.0128***	3.36	-0.0056***	-2.90	-0.0082**	-2.15
EarnVol	-0.0204***	-3.23	-0.0032	-1.48	-0.0122**	-2.34
Earnpersist	0.0000	0.17	0.0000	0.31	0.0002**	2.05
Lnsize	-0.0153***	-6.12	-0.0047***	-4.83	-0.0256***	-13.75
BM	-0.0030	-1.44	0.0003	0.54	-0.0016	-0.96
Turnover	-0.0047***	-3.78	-0.0019***	-3.85	-0.0033***	-3.07
INST	0.0073	1.26	0.0032	1.24	0.0186***	2.84
LmRet	-0.0672***	-3.79	-0.0360***	-5.40	-0.0679***	-5.65
Constant	0.3371***	5.99	0.0906***	4.23	0.5799***	14.04
Firm and Time FE	Yes		Yes		Yes	
Adj. R-squared	0.09		0.06		0.08	
Obs.	146100		146220		146100	

Panel C. Multivariate Regression: EAD in the U.S.

Dep.var	*CAR [-20, -2]* (1)		*CAR [-1, 1]* (2)		*CAR [2, 20]* (3)	
Variables	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
RSUE	0.0196***	10.89	0.0453***	38.09	0.0171***	6.18
Accrual	0.0021	0.89	-0.0008	-1.13	-0.0042**	-2.63
EarnVol	0.0006	0.64	-0.0013**	-2.47	-0.0008	-1.13
Earnpersist	-0.0015	-1.52	-0.0009*	-1.76	-0.0000	-0.02
Lnsize	-0.0157***	-6.63	-0.0102***	-12.01	-0.0175***	-7.53
BM	0.0115**	2.21	0.0071***	9.23	0.0105***	5.31
Turnover	0.0018	1.09	-0.0010*	-1.78	-0.0044	-1.38
INST	0.0027	1.40	0.0065***	6.07	0.0011	0.50
LmRet	-0.0277***	-4.69	-0.0318***	-6.63	-0.0350	-0.67
Constant	0.0792***	5.08	0.0354***	6.72	0.0993***	6.61
Firm and Time FE	Yes		Yes		Yes	
Adj. R-squared	0.06		0.05		0.03	
Obs.	252849		252942		252661	

Table III. Firm Governance and EAD: SOE vs. NSOE

This table reports the influence of firm governance on EAD in China. Our sample covers all quarterly earnings announcements between 2002Q1 and 2023Q4 for firms listed on the SHSE and SZSE, except for observations with ST, *ST or PT labels or listed less than 6 months. Panel A reports the pooled average *SUE*, pre-earnings announcement returns *CAR [-20, -2]*, earnings announcement return *CAR [-1, 1]* and post-earnings announcement return *CAR [2, 20]* for different quintile *SUE* portfolios. In panel B, we estimate the panel regression, as specified in equation (4). The independent variables are cumulative abnormal returns (*CAR*) during the pre-earnings announcement (t = -20 to -2), announcement (t = -1 to 1) and post-earnings announcement (t = +2 to +20) periods. *RSUE* is the scaled quintile rank of *SUE*, ranging from zero to one, in every fiscal quarter. *SOE* dummy equals one for SOEs and zero otherwise. In panel C, the dependent variable is the state ownership measure, *StateOwn,* defined as the larger value of the total state shareholding ratio within firm's top 10 shareholders, and the state-owned shares within the non-tradable shares. Controls are the fiscal-quarter-end firm characteristic, including total accruals (*Accrual*), earnings volatility (*EarnVol*), earnings persistence (*Earnpersist*), natural logarithm of firm's market capitalization (*Lnsize*), book to market ratio (*BM*), quarterly turnover (*Turnover*), institutional ownership (*INST*), and we also control for returns from previous month (*LmRet*). Detailed definitions of variables are in the Appendix Table III. We also add industry and year-quarter fixed effects. The t-statistics are calculated based on standard errors double clustered at the firm and year-quarter levels. Coefficients and statistics marked with *, **, and *** are significant at the 10%, 5%, and 1% levels, respectively.

Panel A. SUE and CAR Patterns for SOEs and NSOEs

	SOEs				*NSOEs*			
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Quintile	*SUE*	*CAR [-20, -2]*	*CAR [-1, 1]*	*CAR [2, 20]*	*SUE*	*CAR [-20, -2]*	*CAR [-1, 1]*	*CAR [2, 20]*
Q1	-0.0076***	-0.94%***	-1.33%**	0.70%**	-0.0070***	-1.61%***	-1.39%***	1.69%***
Q2	-0.0008***	-0.48%	-0.97%***	0.80%**	-0.0008***	-0.97%**	-0.86%***	1.20%***
Q3	0.0001**	-0.20%	-0.25%**	1.17%***	0.0001**	-0.28%	-0.18%*	0.99%***
Q4	0.0009***	0.49%	0.48%***	1.07%***	0.0009***	0.46%	0.65%***	1.10%***
Q5	0.0063***	1.46%***	1.02%***	1.03%***	0.0058***	1.52%***	1.43%***	1.51%***

Panel B. The Influence of State Ownership

Dep.var	*CAR [-20, -2]* (1)		*CAR [-1, 1]* (2)		*CAR [2, 20]* (3)	
Variables	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
RSUE	0.0290***	12.09	0.0302***	10.27	0.0052**	2.20
SOE	0.0031*	1.82	0.0005	0.50	-0.0046**	-2.10
*SOE*RSUE*	-0.0064***	-2.68	-0.0059***	-3.18	0.0034*	1.68
Constant	0.0337	1.17	0.0034	0.36	0.0485*	1.87
Time and Industry FE	Yes		Yes		Yes	
Controls	Yes		Yes		Yes	
Adj. R-squared	0.02		0.04		0.01	
Obs.	135299		135407		135299	

Panel C. The Influence of Government Holdings

Dep.var	*CAR [-20, -2]* (1)		*CAR [-1, 1]* (2)		*CAR [2, 20]* (3)	
Variables	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
RSUE	0.0288***	11.74	0.0308***	10.10	0.0026	1.02
StateOwn	0.0134***	3.16	0.0021	0.85	-0.0068	-1.28
*StateOwn*RSUE*	-0.0154***	-3.09	-0.0152***	-4.41	0.0076*	1.71
Constant	0.1020***	2.66	-0.0189	-1.06	0.2524***	6.47
Time and Industry FE	Yes		Yes		Yes	
Controls	Yes		Yes		Yes	
Adj. R-squared	0.07		0.04		0.05	
Obs.	127902		127973		127902	

Table IV. Market-level Information Environment

This table reports the influence of market-level information environment on changes in EAD, including the implementation of investor interaction platforms (IIPs), the Hong Kong Stock Connect and margin trading. Panel A reports the summary statistics for treatment and matched control groups. Panel B, C and D report the results for IIPs, Hong Kong Stock Connect and margin trading respectively. We estimate a difference-in-differences (DID) regression, as specified in equation (5) in China. For IIPs, *Post* is an indicator for IIP-post-event period, which equals to 1 if the earnings announcement year is 2011 or 2012, and 0 if it is year 2008 or year 2009. *Treat* is an indicator variable that takes the value of 1 for firms included in the treatment group (defined as firms listed on the Shenzhen stock exchange) and it takes the value of 0 for the matched SHSE-listed companies. For Hong Kong Stock Connect, we study the opening of the Shanghai-Hong Kong Stock Connect program in 2014. *Post* is an indicator for post-event period, which equals to 1 for quarterly earnings announcements between 2014Q4 and 2016Q3 and equals to 0 for quarterly earnings announcements between 2012Q4 and 2014Q3. *Treat* is an indicator variable that takes the value of 1 for firms included in the treatment group (defined as firms included in the program in 2014) and it takes the value of 0 for the matched non-eligible stocks (defined as firms not added into the list before 2014). We exclude companies that were selected for the program but were later removed. For margin trading, we focus on the expansion of the underlying stocks for margin trading in September, 2014. *Post* is an indicator for post-event period, which equals to 1 for quarterly earnings announcements between 2014Q3 and 2016Q3 and equals to 0 for quarterly earnings announcements between 2012Q2 and 2014Q2. *Treat* is an indicator variable that takes the value of 1 for firms included in the treatment group (defined as firms added into the eligible list in 2014) and it takes the value of 0 for the matched non-shortable stocks (defined as firms not added into the list before 2014). To do the test, we exclude companies that were selected but later removed from the list, and we also exclude stocks whose trading status is marketed as "selling only" to ensure both buying and selling is available on the stock. Panel E reports the results of subgroup SOEs and NSOEs analysis. For the above regressions, The independent variables are cumulative abnormal returns (*CAR*) during the pre-earnings announcement (t = -20 to -2), announcement (t = -1 to +1) and post-earnings announcement (t = +2 to +20) periods. *RSUE* is the scaled quintile rank of SUE, ranging from zero to one, in every fiscal quarter. Controls are the fiscal-quarter-end firm characteristic, including total accruals (*Accrual*), earnings volatility (*EarnVol*), earnings persistence (*Earnpersist*), natural logarithm of firm's market capitalization (*Lnsize*), book to market ratio (*BM*), quarterly turnover (*Turnover*), institutional ownership (*INST*), and we also control for returns from previous month (*LmRet*). Detailed definitions of variables are in the Appendix Table III. We also add firm and year-quarter fixed effects. The t-statistics are calculated based on standard errors double clustered at the firm and year-quarter levels. Coefficients and statistics marked with *, **, and *** are significant at the 10%, 5%, and 1% levels, respectively.

Panel A. Matching Statistics

		IIP	HKC	Margin Trading
Number of Stocks		591	431	164
Lnsize	Control	21.7420	22.8173	22.2075
	Treat	21.7506	23.1999	22.5012
	Difference	-0.0086	-0.3826***	-0.2938***
	p-value(t-test)	0.874	0.000	0.000
Turnover	Control	2.2871	1.0862	0.8287
	Treat	2.4653	1.0965	0.9408
	Difference	-0.1282**	-0.0102	-0.1121
	p-value(t-test)	0.013	0.869	0.293

Panel B. The Influence of Implementing IIPs on EAD in China

Dep.var	*CAR [-20, -2]*		*CAR [-1, 1]*		*CAR [2, 20]*	
	(1)		(2)		(3)	
Variables	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
*Post * Treat* RSUE*	0.0157	0.90	-0.0119	-1.60	-0.0334**	-2.23
RSUE	0.0461***	7.18	0.0213***	2.95	0.0051	0.47
*Post * RSUE*	-0.0180*	-1.90	-0.0019	-0.24	0.0107	0.52
*Treat * RSUE*	-0.0163	-1.19	0.0092	1.34	0.0279***	3.94
*Post * Treat*	-0.0142	-1.21	0.0025	0.54	0.0142	1.74
Constant	0.8633***	6.07	0.3422***	6.70	0.9728***	5.29
Firm and Time FE	Yes		Yes		Yes	
Controls	Yes		Yes		Yes	
Adj. R-squared	0.14		0.10		0.13	
Obs.	14758		14762		14758	

Panel C. The Influence of Implementing Hong Kong Connect

Dep.var	*CAR [-20, -2]*		*CAR [-1, 1]*		*CAR [2, 20]*	
	(1)		(2)		(3)	
Variables	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
*Post * Treat* RSUE*	0.0244**	2.67	-0.0118	-1.58	0.0048	0.26
RSUE	0.0283***	4.52	0.0125***	3.17	0.0125	1.18
*Post * RSUE*	-0.0234**	-2.29	0.0083	1.51	0.0020	0.11
*Treat * RSUE*	-0.0093	-1.49	0.0084*	2.04	-0.0085	-0.74
*Post * Treat*	-0.0201**	-2.19	-0.0003	-0.08	-0.0107	-1.09
Constant	1.3153***	4.88	0.4747***	4.84	1.4413***	5.60
Firm and Time FE	Yes		Yes		Yes	
Controls	Yes		Yes		Yes	
Adj. R-squared	0.09		0.07		0.08	
Obs.	11183		11185		11183	

Panel D. The Influence of Implementing Margin Trading and Short Selling

Dep.var	*CAR [-20, -2]*		*CAR [-1, 1]*		*CAR [2, 20]*	
	(1)		(2)		(3)	
Variables	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
*Post * Treat* RSUE*	-0.0030	-0.18	0.0146	1.18	0.0232	0.99
RSUE	0.0288*	2.05	0.0249***	5.76	0.0090	1.08
*Post * RSUE*	-0.0176	-1.27	0.0003	0.04	0.0026	0.11
*Treat * RSUE*	0.0044	0.36	-0.0159*	-1.74	-0.0166	-1.72
*Post * Treat*	0.0185	1.42	-0.0075	-1.07	-0.0069	-0.46
Constant	1.1131**	2.50	0.2407**	2.39	0.9891**	2.53
Firm and Time FE	Yes		Yes		Yes	
Controls	Yes		Yes		Yes	
Adj. R-squared	0.11		0.07		0.11	
Obs.	4458		4460		4458	

Panel E. The Influence of Market-level Information Environment: SOEs vs. NSOEs

Dep.var	*CAR [-20, -2]*		*CAR [-1, 1]*		*CAR [2, 20]*	
	(1)		(2)		(3)	
*Post * Treat* RSUE*	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
SOEs						
IIP	-0.0035	-0.15	-0.0230**	-2.42	-0.0354*	-1.96
HKC	0.0253*	2.03	-0.0136	-1.55	0.0076	0.32
Margin Trading	-0.0703**	-2.79	0.0187	1.63	-0.0248	-0.76
NSOEs						
IIP	0.0384	1.40	0.0021	0.16	-0.0306	-1.19
HKC	0.0298	0.87	-0.0060	-0.55	-0.0020	-0.08
Margin Trading	0.0641**	2.61	0.0003	0.01	0.0524	1.38
Coef. Diff. between NSOEs and SOEs	Coef. Diff.	*p*-Stat	Coef. Diff.	*p*-Stat	Coef. Diff.	*p*-Stat
IIP	-0.0419**	0.03	-0.0251**	0.04	-0.0048	0.40
HKC	-0.0045	0.44	-0.0076	0.23	0.0096	0.26
Margin Trading	-0.1344***	0.00	0.0184	0.22	-0.0772**	0.04

Table V. Summary Statistics for Firm-level Information Channels

This table reports the summary statistics for firm-level information environment in China, including earnings guidance, firm visits, analyst coverage and insider trading. For earnings guidance, our sample covers all quarterly earnings announcements between 2005Q1 and 2023Q4 for firms listed on the SHSE and SZSE[14], except for observations with ST, *ST or PT labels or listed less than 6 months. To focus on the influence of earnings guidance and mitigate the confounding influence of guidance revisions, we also exclude those earnings announcements with earnings guidance revisions. For firm visits, due to data availability[15], our sample includes all quarterly earnings announcements for SZSE-listed firms between 2013Q1 and 2023Q4. For the influence of analyst coverage, our sample includes all quarterly earnings announcements between 2005Q1 and 2023Q4 for firms listed on the SHSE and SZSE.[16] Panel A presents the summary statistics for earnings guidance, quarterly firm visits, analyst followers, as well as insider trading ratio. *DGuide* is indicator variable for earnings guidance, which equals 1 if the company issues earnings guidance before the earnings announcements, and 0 otherwise. *QVisitNum* and *QAnaNum* are the number of firm visits and the number of individual analysts who made earnings forecasts for each firm in each fiscal quarter. Insider trading, *QInsiderTrade(%)*, is the percentage of insider trading shares relative to the total number of outstanding shares in each fiscal quarter. Panel B reports the pooled average *SUE*, pre-earnings announcement returns *CAR [-20, -2]*, earnings announcement return *CAR [-1, 1]* and post-earnings announcement return *CAR [2, 20]* conditional on different *SUE* quintile and four firm-level information environment measures. Statistics marked with *, **, and *** are significant at the 10%, 5%, and 1% levels, respectively.

Panel A. Summary Statistics

	All Firms			SOEs			NSOEs		
Variables	Mean	Median	Std	Mean	Median	Std	Mean	Median	Std
DGuide	0.423	0.000	0.494	0.330	0.000	0.470	0.478	0.000	0.500
QVisitNum	1.141	0.000	2.262	1.032	0.000	2.116	1.172	0.000	2.301
QAnaNum	5.819	1.000	10.080	6.134	1.000	10.637	5.634	1.000	9.733
QInsiderTrade(%)	0.177	0.000	0.382	0.092	0.000	0.289	0.224	0.000	0.417

[14] CSMAR started compiling earnings guidance data in 2005Q1.
[15] CSMAR started compiling firm visit data in July 2012 for SZSE-listed firms.
[16] Suntime database started compiling sell-side analyst forecast data since 2005.

Panel B. Earnings Announcement Drift Conditional on Earnings Surprise and Firm Provision and Acquisition Channels

	SUE		*CAR [-20, -2]*		*CAR [-1, 1]*		*CAR [2, 20]*	
Subsample	Q1	Q5	Q1	Q5	Q1	Q5	Q1	Q5
With Guidance	-0.0091***	0.0069***	-1.51%***	1.99%***	-0.75%***	0.47%***	1.32%***	1.14%***
Without Guidance	-0.0051***	0.0046***	-1.09%**	0.87%**	-1.91%***	2.19%***	1.26%***	1.56%***
With Firm Visits	-0.0057***	0.0048***	-1.06%*	2.02%***	-1.13%***	1.59%***	1.31%***	1.07%**
Without Firm Visits	-0.0071***	0.0066***	-1.59%**	1.05%*	-1.42%***	0.97%***	1.28%**	1.37%**
High Analyst Coverage	-0.0064***	0.0051***	-1.47%***	1.65%***	-1.40%***	1.48%***	0.70%***	0.93%***
Low Analyst Coverage	-0.0076***	0.0068***	-1.09%**	1.29%***	-1.32%***	1.07%***	1.69%***	1.82%***
With Insider Trading	-0.0059***	0.0051***	-1.14%**	2.21%***	-1.49%***	1.18%***	1.25%***	1.59%***
Without Insider Trading	-0.0068***	0.0058***	-1.20%***	1.28%***	-1.30%***	1.30%***	1.23%***	1.37%***

Table VI. Firm-level Information Channels

This table reports the influence of firm-level information channels on changes in PEAD, including earnings guidance, firm visits, analyst coverage and insider trading. For the influence of earnings guidance, our sample covers all quarterly earnings announcements between 2005Q1 and 2023Q4 for firms listed on the SHSE and SZSE, except for observations with ST, *ST or PT labels or listed less than 6 months. To focus on the influence of earnings guidance and mitigate the confounding influence of guidance revisions, we exclude those earnings announcements with earnings guidance revisions. For the influence of firm visits, due to data availability, our sample includes all quarterly earnings announcements for SZSE-listed firms between 2013Q1 and 2023Q4. For the influence of analyst coverage, our sample includes all quarterly earnings announcements between 2005Q1 and 2023Q4 for firms listed on the SHSE and SZSE. We estimate the panel regression, as specified in equation (6) in Panel A-D. *DGuide* is indicator variable for earnings guidance, which equals 1 if the company issues earnings guidance before the earnings announcements, and 0 otherwise. *DVisit, DAna* and *DInsider* are indicator variables for firm visits, analyst coverage and insider trading. We sort all stocks each fiscal quarter into two groups according to the number of firm visits *QVisitNum,* the number of analysts who made earnings forecasts *QAnaNum,* and the insider trading ratio *QInsiderTrade(%),* for each firm in each fiscal quarter. *DVisit, DAna* and *DInsider* equal to one if *QVisitNum*, *QAnaNum* and *QInsiderTrade(%)* are above the median respectively, and 0 otherwise. Panel E considers the four factors all together. Panel F reports the estimation results as specified in equation (7). *SOE* dummy equals one for SOEs and zero otherwise. The independent variables are cumulative abnormal returns (*CAR*) during the pre-earnings announcement (t = -20 to -2), earnings announcement (t = -1 to 1) and post-earnings announcement (t = +2 to +20) periods. *RSUE* is the scaled quintile rank of SUE, ranging from zero to one, in every fiscal quarter. Controls are the fiscal-quarter-end firm characteristic, including total accruals (*Accrual*), earnings volatility (*EarnVol*), earnings persistence (*Earnpersist*), natural logarithm of firm's market capitalization (*Lnsize*), book to market ratio (*BM*), quarterly turnover (*Turnover*), institutional ownership (*INST*), and we also control for returns from previous month (*LmRet*). Detailed definitions of variables are in the Appendix Table III. We also add industry and year-quarter fixed effects. The t-statistics are calculated based on standard errors double clustered at the firm and year-quarter levels. Coefficients and statistics marked with *, **, and *** are significant at the 10%, 5%, and 1% levels, respectively.

Panel A. The Influence of Firm-level Information Provision: Earnings Guidance

Dep.var	*CAR [-20, -2]*		*CAR [-1, 1]*		*CAR [2, 20]*	
	(1)		(2)		(3)	
Variables	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
RSUE	0.0189***	8.65	0.0414***	13.37	0.0101***	3.92
DGuide	-0.0040*	-1.68	0.0131***	7.43	0.0035	1.41
DGuide RSUE*	0.0162***	5.75	-0.0276***	-8.97	-0.0093***	-3.26
Constant	0.0875**	2.41	-0.0292*	-1.74	0.2573***	6.84
Quarter and Industry FE	Yes		Yes		Yes	
Controls	Yes		Yes		Yes	
Adj. R-squared	0.09		0.05		0.07	
Obs.	136867		136983		136867	

Panel B. The Influence of Firm-level Information Acquisition: Firm Visits

Dep.var	*CAR [-20, -2]*		*CAR [-1, 1]*		*CAR [2, 20]*	
	(1)		(2)		(3)	
Variables	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
RSUE	0.0263***	7.56	0.0256***	7.24	0.0056**	2.04
DVisit	-0.0016	-0.9	-0.0021	-1.55	0.0079***	3.42
*DVisit * RSUE*	0.0071*	1.96	0.0069***	3.19	-0.0063*	-1.78
Constant	0.1248**	2.47	-0.0284	-1.32	0.3250***	6.21
Time and Industry FE	Yes		Yes		Yes	
Controls	Yes		Yes		Yes	
Adj. R-squared	0.08		0.04		0.07	
Obs.	64051		64074		64051	

Panel C. The Influence of Firm-level Information Acquisition: Analyst Coverage

Dep.var	*CAR [-20, -2]*		*CAR [-1, 1]*		*CAR [2, 20]*	
	(1)		(2)		(3)	
Variables	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
RSUE	0.0221***	10.78	0.0237***	9.4	0.0056***	2.69
DAna	-0.0050***	-2.65	-0.0029***	-3.07	0.0015	0.88
*DAna * RSUE*	0.0106***	4.81	0.0088***	7.47	-0.0001	-0.04
Constant	0.0944***	2.84	-0.0094	-0.65	0.2698***	7.68
Time and Industry FE	Yes		Yes		Yes	
Controls	Yes		Yes		Yes	
Adj. R-squared	0.08		0.04		0.06	
Obs.	142134		142254		142134	

Panel D. The Influence of Firm-level Insider Trading

Dep.var	*CAR [-20, -2]*		*CAR [-1, 1]*		*CAR [2, 20]*	
	(1)		(2)		(3)	
Variables	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
RSUE	0.0253***	12.21	0.0280***	10.79	0.0063***	3.00
DInsider	-0.0012	-0.58	-0.0002	-0.24	0.0008	0.37
*DInsider * RSUE*	0.0057**	2.00	-0.0000	-0.01	0.0007	0.29
Constant	0.0912**	2.46	-0.0168	-1.01	0.2590***	6.83
Time and Industry FE	Yes		Yes		Yes	
Controls	Yes		Yes		Yes	
Adj. R-squared	0.08		0.04		0.06	
Obs.	136182		136221		136182	

Panel E. The Influence of Firm-level Information Environment

Dep.var	*CAR [-20, -2]*		*CAR [-1, 1]*		*CAR [2, 20]*	
	(1)		(2)		(3)	
Variables	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
RSUE	0.0167***	5.53	0.0493***	9.21	0.0105***	2.73
DGuide RSUE*	0.0112***	2.76	-0.0395***	-8.58	-0.0095**	-2.21
*DVisit * RSUE*	0.0033	0.83	0.0033	1.49	-0.0103**	-2.64
*DAna * RSUE*	0.0092**	2.33	0.0070***	3.57	0.0042	1.13
*DInsider * RSUE*	-0.0007	-0.19	0.0026	1.20	0.0034	1.00
Constant	0.1243***	2.74	-0.0345*	-1.70	0.3327***	6.52
Time and Industry FE	Yes		Yes		Yes	
Controls	Yes		Yes		Yes	
Adj. R-squared	0.08		0.05		0.07	
Obs.	60630		60651		60630	

Panel F. Firm-level Information Environment and Firm Governance

Dep.var	*CAR [-20, -2]*		*CAR [-1, 1]*		*CAR [2, 20]*	
	(1)		(2)		(3)	
Variables	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
DGuide RSUE * SOE*	0.0079*	1.90	0.0125***	4.04	0.0013	0.27
*DVisit * RSUE * SOE*	-0.0166***	-2.73	0.0045	1.03	0.0035	0.68
*DAna * RSUE * SOE*	-0.0070	-1.58	-0.0002	-0.08	0.0045	1.05
DInsider RSUE * SOE*	0.0010	0.17	0.0054*	1.70	0.0094*	1.69

Table VII. Information Consumption of Different Types of Investors

This table presents the information consumption of different types of investors around earnings announcements. We consider both retail and institutional investors. We consider the following three groups of investors: 1) small retail investors (RTSmall) with account sizes below 10 million CNY; 2) large retail investors (RTLarge) with account sizes above 10 million CNY; and 3) institutional investors (INST), including mutual fund and hedge fund and other institutional investors. We estimated the panel regression, as specified in equation (11) and report the results of the patterns of investor trading around earnings announcement in Panel A. The dependent variable is net individual trading measure (*NetTrade*), as specified in equation (9). $I_{d=k}$ indicates earnings announcement event dates. We further control for firm and day fixed effects. T statistics based on standard errors double-clustered at the stock and day levels. We then estimate the panel regression, as specified in equation (12). Panel B and C show the results of the influence of investor holdings and net investor trading on EAD. The dependent variables are cumulative abnormal net trading over pre-earnings announcement (t = -20 to -2). Investor shareholding, *Hold*, is the number of shares held by investor group G dividend by the total shares of stock *i* at the end of fiscal quarter *q*. We construct the net investor trading measure by first computing the investor imbalance measure (*OIB*), that is, by subtracting the daily value of the shares sold from the value of shares bought and dividing by the average daily RMB volume in the calendar year, as specified in equation (8). We then subtract from the imbalance measure the daily average of individual imbalances over the sample period to get the net individual trading measure, and compute for each stock the cumulative net investor trading measure over certain periods. The independent variables are cumulative abnormal returns (*CAR*) during the pre-earnings announcement (t = -20 to -2), earnings announcement (t = -1 to +1) periods and post-earnings announcement (t = +2 to +20) periods. Controls include *QSUE*, total accruals (*Accrual*), earnings volatility (*EarnVol*), earnings persistence (*Earnpersist*), natural logarithm of firm's market capitalization (*Lnsize*), book to market ratio (*BM*), quarterly turnover (*Turnover*), institutional ownership (*INST*), and we also control for returns from previous month (*LmRet*). Detailed definitions of variables are in the Appendix Table III. We also add industry and year-quarter fixed effects. The t-statistics are calculated based on standard errors double clustered at the firm and year-quarter levels. Coefficients and statistics marked with *, **, and *** are significant at the 10%, 5%, and 1% levels, respectively.

Panel A. Investor Trading around Earnings Announcement

Dep.var	*NetTrade*					
	SmallRT		LargeRT		INST	
	(1)		(2)		(3)	
	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
Pre-Ann-Q5	0.0000	-0.03	0.0000	-0.10	-0.0001	-0.09
Ann-Q5	-0.0037**	-2.20	-0.0041***	-3.85	0.0093***	5.56
Post-Ann-Q5	-0.0036***	-4.11	-0.0013***	-2.76	0.0056***	5.92
Pre-Ann-Q1	0.0013*	1.77	0.0005	1.27	-0.0017**	-2.39
Ann-Q1	0.0085***	5.83	0.0014	1.52	-0.0098***	-6.87
Post-Ann-Q1	0.0009	1.09	0.0012**	2.50	-0.0021***	-2.83
Constant	-0.0001	-0.41	0.0006***	8.00	0.0001	0.39
Day and Firm FE	Yes		Yes		Yes	
Adj. R-squared	0.01		0.01		0.02	
Obs.	1643977		1643977		1643977	

Panel B. Investor Holdings and EAD

Dep.var	*CAR [-20, -2]*		*CAR [-1, 1]*		*CAR [2, 20]*	
	(1)		(2)		(3)	
Variables	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
All Firms						
*Hold_SmallRT*RSUE*	-0.0236**	-2.07	-0.0056	-0.91	-0.0016	-0.14
*Hold_LargeRT*RSUE*	0.0244	1.16	0.0154	1.59	0.0029	0.18
*Hold_INST*RSUE*	0.0163	0.93	0.0344***	3.31	-0.0015	-0.08
SOEs						
*Hold_SmallRT*RSUE*	-0.0211*	-1.73	0.0046	0.59	0.0083	0.42
*Hold_LargeRT*RSUE*	-0.0687**	-2.40	-0.0010	-0.05	-0.0540	-1.05
*Hold_INST*RSUE*	-0.0134	-0.92	0.0156	1.28	-0.0146	-0.47
NSOEs						

*Hold_SmallRT*RSUE*	-0.0323	-1.58	-0.0219***	-2.91	-0.0064	-0.45
*Hold_LargeRT*RSUE*	0.0282	1.24	0.0067	0.62	0.0215	1.21
*Hold_INST*RSUE*	0.0310	1.18	0.0567***	3.93	-0.0064	-0.25
Small Firms						
*Hold_SmallRT*RSUE*	-0.0390*	-1.94	-0.0109	-0.93	0.0041	0.18
*Hold_LargeRT*RSUE*	0.0497*	1.95	0.0320*	1.95	-0.0485*	-1.76
*Hold_INST*RSUE*	0.0057	0.21	0.0400*	1.72	0.0315	1.07
Large Firms						
*Hold_SmallRT*RSUE*	-0.0063	-0.24	0.0176	0.90	0.0326	1.15
*Hold_LargeRT*RSUE*	-0.0029	-0.12	0.0233	0.99	0.0353	1.64
*Hold_INST*RSUE*	-0.0092	-0.34	0.0295**	2.17	-0.0164	-0.54

Panel C. Net Investor Trading and EAD

Dep.var	*CAR [-20, -2]*		*CAR [-1, 1]*		*CAR [2, 20]*		*CAR [2, 20]*	
Indep. var	*NetTrade [-20, -2]*		*NetTrade [-20, -2]*		*NetTrade [-20, -2]*		*NetTrade [-1,1]*	
	(1)		(2)		(3)		(4)	
	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
All Firms								
NetTrade_SmallRT	-0.0532***	-10.83	-0.0042***	-4.98	-0.0072***	-3.55	-0.0532***	-10.83
NetTrade_LargeRT	0.0322***	6.58	0.0005	0.49	-0.0002	-0.07	0.0322***	6.58
NetTrade_INST	0.0401***	10.19	0.0032***	5.68	0.0037**	2.34	0.0401***	10.19
SOEs								
NetTrade_SmallRT	-0.0489***	-9.91	-0.0040***	-3.29	-0.0074***	-2.86	-0.0489***	-9.91
NetTrade_LargeRT	0.0288***	5.64	0.0021	1.22	-0.0037	-1.10	0.0288***	5.64
NetTrade_INST	0.0385***	9.79	0.0029***	3.69	0.0043**	2.15	0.0385***	9.79
NSOEs								
NetTrade_SmallRT	-0.0573***	-9.76	-0.0044***	-3.14	-0.0073***	-3.38	-0.0573***	-9.76
NetTrade_LargeRT	0.0329***	4.37	-0.0017	-0.75	0.0034	0.84	0.0329***	4.37
NetTrade_INST	0.0415***	9.37	0.0037***	3.17	0.0035**	2.18	0.0415***	9.37

Small Firms								
NetTrade_SmallRT	-0.0487***	-7.53	-0.0047***	-4.08	-0.0061**	-2.53	-0.0487***	-7.53
NetTrade_LargeRT	0.0459***	7.27	0.0024	1.29	0.0083**	2.15	0.0459***	7.27
NetTrade_INST	0.0351***	5.82	0.0030**	2.61	0.0017	0.87	0.0351***	5.82
Large Firms								
NetTrade_SmallRT	-0.0551***	-10.51	-0.0038***	-3.83	-0.0071**	-2.49	-0.0551***	-10.51
NetTrade_LargeRT	0.0208***	3.99	-0.0013	-0.83	-0.0045	-1.25	0.0208***	3.99
NetTrade_INST	0.0412***	10.26	0.0033***	4.34	0.0038*	1.84	0.0412***	10.26

Table VIII. Further Robustness Checks

This table reports additional multivariate tests of the existence of EAD in China in panel A and the influence of state ownership in panel B. Our sample covers all quarterly earnings announcements between 2002Q1 and 2023Q4 for firms listed on the SHSE and SZSE, except for observations with ST, *ST or PT labels or listed less than 6 months. We estimate the panel regression, as specified in equation (3) and report the results in Panel A. In Panel B, we estimate the panel regression, as specified in equation (4). *SOE* dummy equals one for SOEs and zero otherwise. The independent variables are cumulative abnormal returns (*CAR*) and buy-and-hold abnormal returns (*BHAR*) during the pre-earnings announcement (t = -20 to -2), three-day announcement return (t = -1 to 1) and post-earnings announcement (t = +2 to +20) periods. Daily abnormal return is obtained by subtracting the daily return of corresponding size-decile or matched 1 of 25 size-B/M portfolios from individual stock's daily return. *RSUE* and *PAnaSUE* are the scaled quintile rank of *SUE* and *AanSUE*, ranging from zero to one, in every fiscal quarter. Controls are the fiscal-quarter-end firm characteristic, including total accruals (*Accrual*), earnings volatility (*EarnVol*), earnings persistence (*Earnpersist*), natural logarithm of firm's market capitalization (*Lnsize*), book to market ratio (*BM*), quarterly turnover (*Turnover*), institutional ownership (*INST*), and we also control for returns from previous month (*LmRet*). Detailed definitions of variables are in the Appendix Table III. We also control for industry and year-quarter fixed effects. The t-statistics are calculated based on standard errors double clustered at the firm and year-quarter levels. Coefficients and statistics marked with *, **, and *** are significant at the 10%, 5%, and 1% levels, respectively.

Panel A. Earnings Announcements Drift in China

Dep.var	*[-20, -2]*		*[-1, 1]*		*[2, 20]*	
	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
			Indep.var: *RSUE*			
Market-adjusted CAR	0.0280***	13.33	0.0278***	12.07	0.0052**	2.61
Size-adjusted CAR	0.0267***	12.92	0.0100***	10.97	0.0055***	2.82
Size-B/M-adjusted CAR	0.0265***	13.45	0.0099***	11.59	0.0054***	3.04
			Indep.var: *RAnaSUE*			
Market-adjusted CAR	0.0187***	9.33	0.0180***	11.37	0.0045**	2.13
Size-adjusted CAR	0.0163***	8.35	0.0060***	7.60	0.0063***	2.89
Size-B/M-adjusted CAR	0.0176***	8.45	0.0060***	7.39	0.0056***	2.72

Panel B. The Influence of State Ownership

Dep.var	*[-20, -2]*		*[-1, 1]*		*[2, 20]*	
	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
			Indep.var: *RSUE*SOE*			
Market-adjusted CAR	-0.0059**	-2.30	-0.0062***	-3.22	0.0050**	2.41
Size-adjusted CAR	-0.0062**	-2.54	-0.0016*	-1.80	0.0040**	1.99
Size-B/M-adjusted CAR	-0.0068***	-2.94	-0.0021**	-2.32	0.0038**	2.03
			Indep.var: *RAnaSUE*SOE*			
Market-adjusted CAR	-0.0043	-1.01	-0.0001	-0.05	0.0055	1.30
Size-adjusted CAR	-0.0017	-0.41	0.0010	0.60	0.0054	1.19
Size-B/M-adjusted CAR	-0.0030	-0.73	0.0009	0.49	0.0046	1.10

Panel C. The Influence of State Ownership for Largest Firms (Q5)

Dep.var	*[-20, -2]*		*[-1, 1]*		*[2, 20]*	
	Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
			Indep.var: *RAnaSUE*SOE*			
Market-adjusted CAR	-0.0124*	-1.98	-0.0072**	-2.39	0.0050	0.70
Size-adjusted CAR	-0.0112*	-1.68	0.0012	0.55	0.0056	0.79
Size-B/M-adjusted CAR	-0.0150**	-2.19	0.0011	0.53	0.0057	0.87

Figure I. Stylized Facts for EAD in the U.S. and China

This figure reports the equal-weighted U.S. dollar-dominated cumulative abnormal returns (CARs) for *SUE* portfolios in both the U.S. and China. We sort all stocks each fiscal quarter into quintiles according to the random walk earnings surprise (Q1 contains the stocks with the most negative earnings surprise and Q5 the stocks with the most positive earnings surprise). Cumulative abnormal returns are calculated by compounding the daily abnormal returns over time. Abnormal return is obtained by subtracting the value-weighted daily market return from individual stock's daily return.

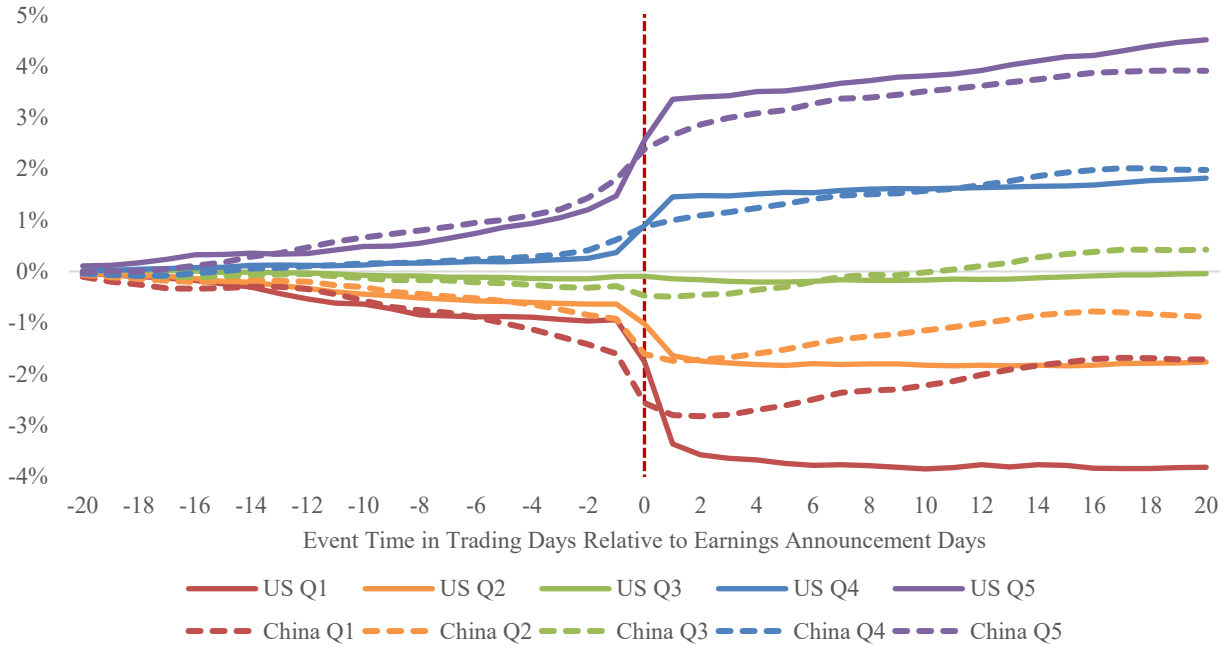


Figure II. Stylized Facts for EAD in China: SOE v.s NSOE

This figure reports the equal-weighted U.S. dollar-dominated cumulative abnormal returns (CARs) for *SUE* portfolios for SOEs and NSOEs in China. We sort all stocks each fiscal quarter into quintiles according to the random walk earnings surprise (Q1 contains the stocks with the most negative earnings surprise and Q5 the stocks with the most positive earnings surprise). Cumulative abnormal returns are calculated by compounding the daily abnormal returns over time. Abnormal return is obtained by subtracting the value-weighted daily market return from individual stock's daily return.

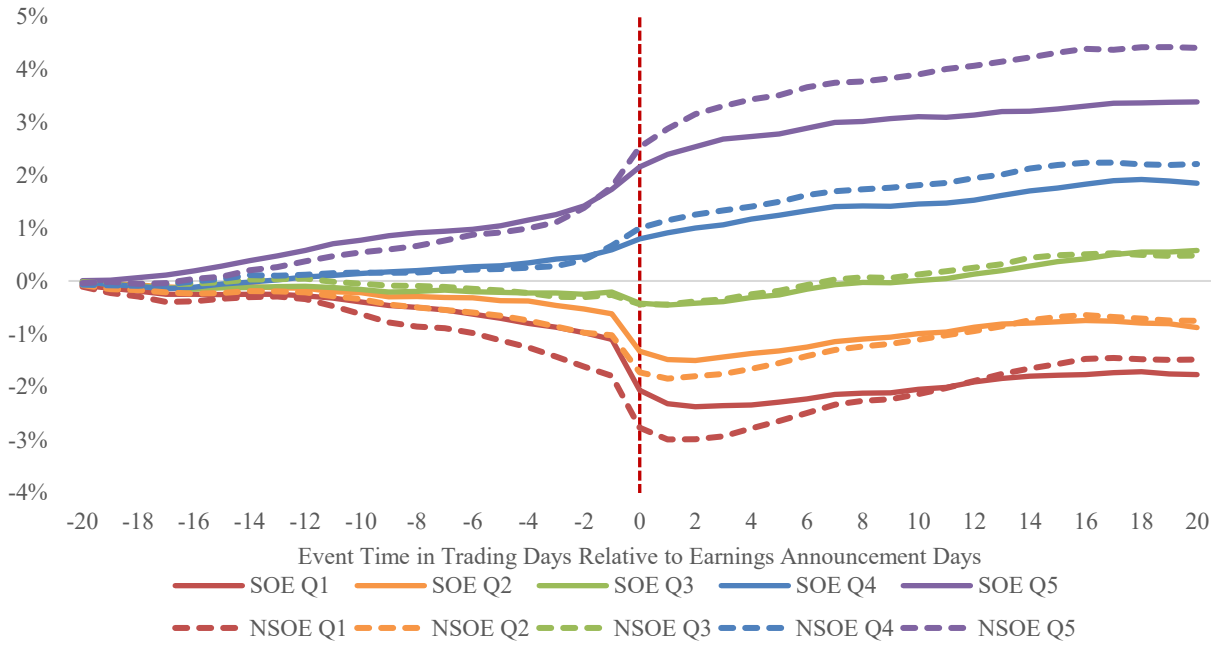
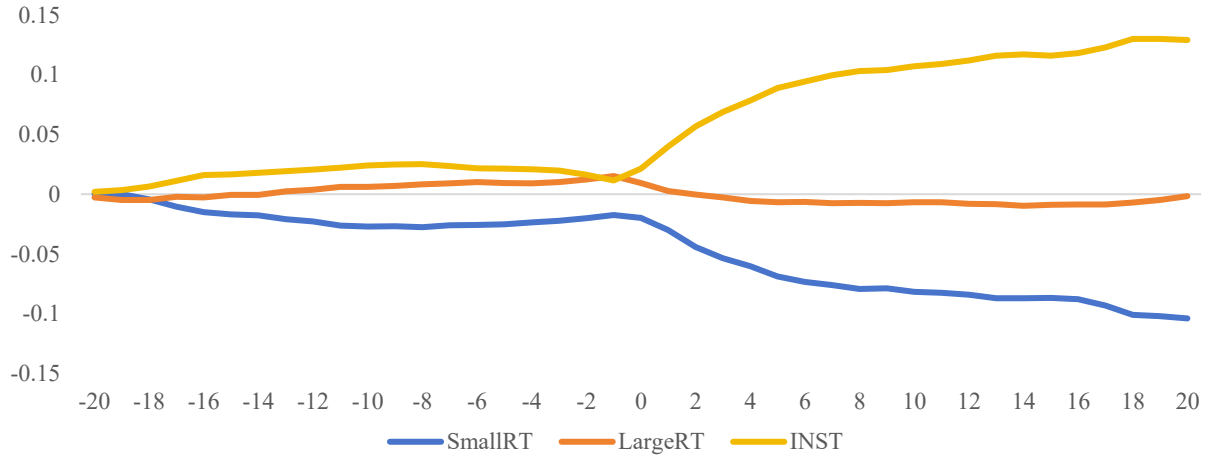


Figure III. Cumulative Net Investor Trading Around Earnings Announcements Conditional on Earnings Surprise

This Figure present analysis of cumulative net investor trading around positive and negative earnings announcements. Our sample covers all quarterly earnings announcements announced during Jan. 2016 to May 2020, and our sample firms are A-share stocks listed on one major stock exchange in China. We define cumulative abnormal net trading over the period [m, n] as the sum of daily *NetTrade* during the period. Investor net trading measure (*NetTrade*) are calculated as the daily *OIB* minus the average *OIB* over the full sample period and investor imbalance measure (*OIB*) is computed as the RMB buy volume minus RMB sell volume divided by the average daily volume in the calendar year for each investor group, as specified in equation (XX). We sort all stocks each quarter into quintiles according to the earnings surprise (Q1 contains the stocks with the most negative earnings surprise and Q5 the stocks with the most positive earnings surprise).

Panel A. Cumulative Net Trading for Different Types of Investors around Positive Earnings Announcements



Panel B. Cumulative Net Trading for Different Types of Investors around Negative Earnings Announcements

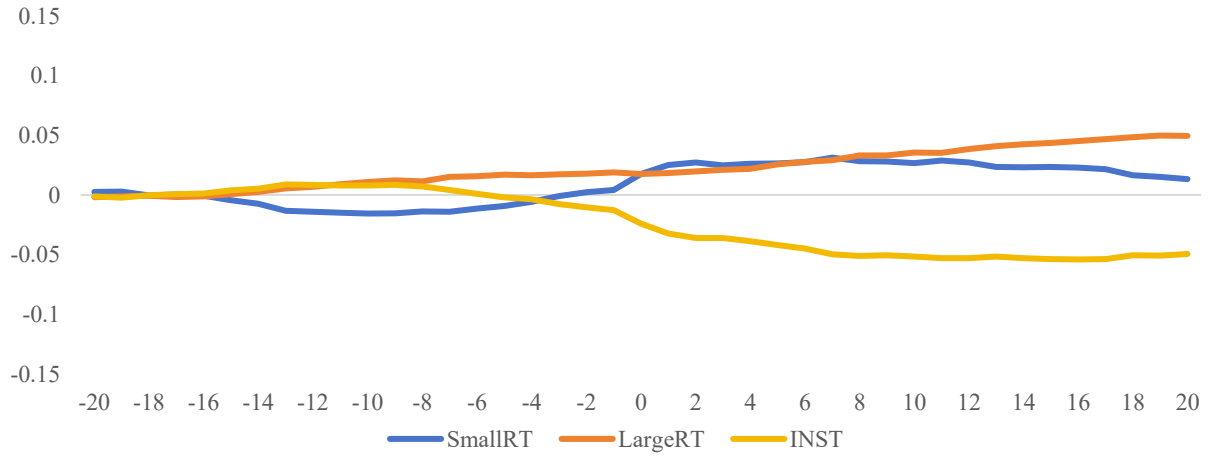
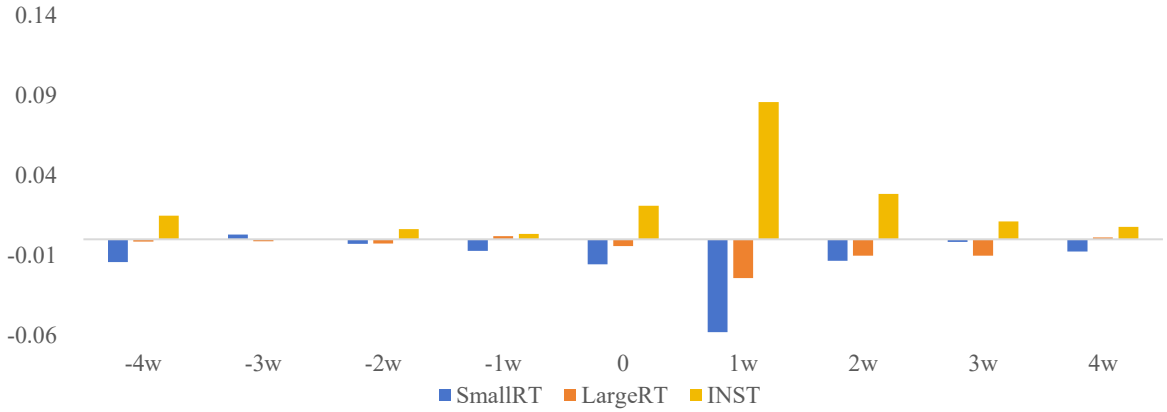
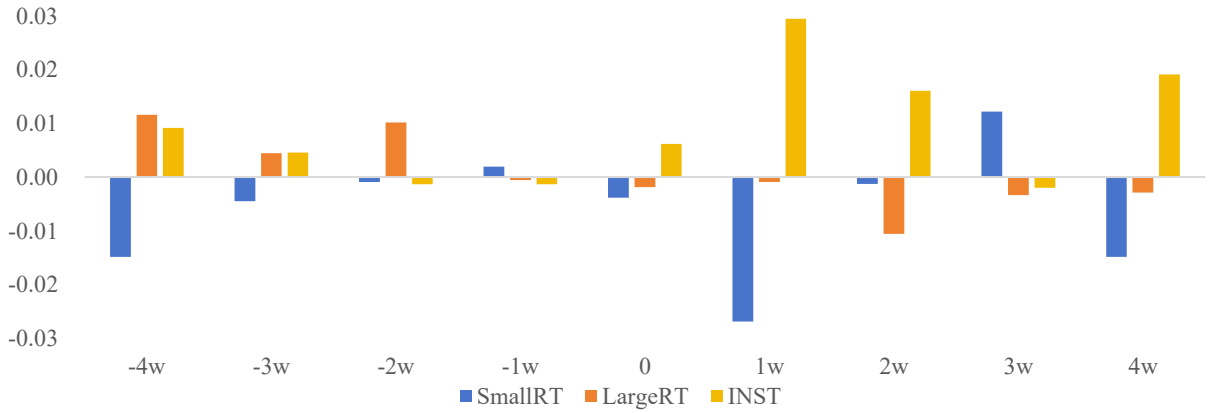


Figure IV. Weekly High-Low Cumulative Net Investor Trading Around Earnings Announcements
Panel A present analysis of the difference of weekly cumulative net investor trading around the most positive and the most negative earnings announcements (Q5-Q1). Our sample covers all quarterly earnings announcements announced during Jan. 2016 to May 2020, and our sample firms are A-share stocks listed on one major stock exchange in China. We define cumulative abnormal net trading over the period [m, n] as the sum of daily *NetTrade* during the period. Investor net trading measure (*NetTrade*) are calculated as the daily *OIB* minus the average *OIB* over the full sample period and investor imbalance measure (*OIB*) is computed as the RMB buy volume minus RMB sell volume divided by the average daily volume in the calendar year for each investor group, as specified in equation (XX). We sort all stocks each quarter into quintiles according to the earnings surprise (Q1 contains the stocks with the most negative earnings surprise and Q5 the stocks with the most positive earnings surprise). Panel B present the results for firms with short holding horizon less than 20 days of large retail investor. We measure the holding horizon using the monthly average of days-to-coverratio (*DTCR*) over the t = -40 to -21 periods. Daily *DTCR* is defined as the total shares held by investor group G divided by daily shares traded on stock *i* for this investor group.

Panel A. Weekly High-Low Net Investor Trading (Q5-Q1) for All Firms



Panel B. Weekly High-Low Net Investor Trading (Q5-Q1) for Firms with DTCR_RT5<=20



Appendix Table I. Previous Studies on Pre- and Post-announcement Returns and Drift

Post-EAD	**The existence of Post-EAD:** Bernard and Thomas (1989), Griffin et al. (2010) and Hung et al. (2015) and so on identify Post-EAD and find it continue to exist even two decades after publication and across markets. **Explanation for Post-EAD:** (1) Limited investor attention and under-reaction to earnings surprises (Jiang et al., 2005; Frazzini, 2006; Hirshleifer et al., 2009; DellaVigna and Pollet, 2009; deHaan et al., 2015; Hung et al., 2015; Michaely et al., 2016) (2) Limit to arbitrage and trading frictions impeding the price discovery process, such as transaction costs (Bhushan, 1994; Ke and Ramalingegowda, 2005; Ng et al., 2008), arbitrage risks (Porras Prado et al., 2016) and illiquidity (Sadka, 2006; Chung and Hrazdil, 2011) and so on.
Pre-EAD	**Pre-announcement returns and drift at firm-level:** (1) Bernard and Thomas (1989) and Martineau (2021) document the magnitude of 3-month Pre-EAD in the U.S. during different periods. (2) Easton et al. (2010, WP) focus on Pre-EAD,defined as a predictable drift in stock prices before the earnings announcements of firms that announce their earnings later than other firms in their industry, rather than Pre-EAD occurs before all firm's own earnings announcements in our paper. (3) Veenman Verwijmeren (2022) study [−5, −1] pre-earnings announcement returns, rather than the one-month Pre-EAD in our paper. (4) Gao et al. (2025) focus on earnings announcement premium which is caused by uncertainty resolution before the earnings announcement. **Pre-announcement returns at macro-level:** (1) Lucca and Moench (2014) focus on pre-FOMC returns and document large average excess returns on U.S. equities in anticipation of monetary policy decisions made at scheduled meetings of the FOMC in the past few decades. (2) Hu et al. (2022) also focus on pre-FOMC returns and link the pre-announcement return directly to the accumulation of heightened uncertainty and its later resolution prior to the announcement. (3) Jia et al. (2023) investigate the trading behaviors of heterogeneous investors around the central bank's monthly announcements on monetary statistics in China.

Appendix Table II. Sample Selection

Panel A. China Sample

Initial sample: All quarterly earnings announcements between 2002Q1 to 2023Q4, and include all stocks listed on the Shanghai and Shenzhen Stock Exchange	230,005
Remove firms are subject to special treatments (with ST, *ST, or PT labels)	-19,263
Exclude stocks listed for less than 6 months	-9,707
Final events: 54% have positive SUE and 44% are negative SUE, and 2% are zero SUE.	201,035

Panel B. US Sample

Initial sample: All quarterly earnings announcements between 2002Q1 to 2023Q4, and include all common share stocks listed on the NYSE, Amex or NASDAQ	356,968
Exclude stocks listed for less than 6 months	-10,894
Final events: 55.4% have positive SUE and 44.4% are negative SUE, and 0.2% are zero SUE.	346,074

Appendix Table III. Variable Definitions

Variable	Definition
AR	Abnormal return is obtained by subtracting the value-weighted daily market return from individual stock's daily return.
CAR [-m, n]	Cumulative abnormal returns are calculated by compounding the daily abnormal returns over time. We require a firm to have at least 15 nonzero daily returns during pre-earnings announcement period (during -20 to -2 trading days prior to the announcement) and during post-earnings announcement period (during +2 to +20 trading days following the announcement).
SUE	Random-walk standardized unexpected earnings, defined as the unexpected earnings (EPS in quarter t minus EPS in quarter t-4) scaled by end-of-quarter stock prices of the quarter (quarter t).
AnaSUE	Analyst-based SUE is calculated as the analysts' unexpected earnings (EPS in quarter t minus analysts' expectations for EPS in quarter t before the earnings-announcement dates), scaled by end-of-quarter stock prices. Considering only the most recent forecast for each analyst, our measure of analysts' expectations is the median of forecasts reported in the 2 to 90 days prior to the earnings announcement.
SOE	SOE dummy, which equals one for SOEs and zero otherwise. A firm is identified as a SOE if there is one or more state-owned agencies among the firm's end-controllers (i.e., the ultimate controllers). State-owned agencies include the state-owned assets supervision and administration commission of the state council (central SASAC), central government institutions, local SASAC and local government institutions.
StateOwn	State ownership, is measured as the fraction of total shares that are owned by the state. It is calculated in the following steps. First, we obtain date on the ten largest shareholders, including their holding shares and the nature of the shares, to calculate a measure of state ownership for a given company. Second, since the financial statement discloses how many shares are state-owned shares among the non-tradable shares, we use this information to calculate another measure of state ownership by only taking the non-tradable shares into account. Then, we take the larger value of the first and second measure to proxy for the state ownership of a given firm.
Accrual	Accruals, defined as the difference between net income before extraordinary item and operating cash flow, scaled by averaged total assets measured as the average of the beginning of end of fiscal quarter total assets. (Pincus et al. 2007 AR)
EarnVol	Earnings volatility is calculated as the standard deviation during the most recent 4 years of the deviations of quarterly earnings per share from 1-year-ago earnings per share (split-adjusted; minimum four observations required).

Earnpersist	Earnings Persistence is the first-order auto-correlation coefficient of quarterly earnings per share during the past 4 years (split-adjusted; minimum four observations required).
Lnsize	Firm size, defined as the logarithm value of the market capitalization. Market capitalization is the product of the previous month's closing price and total A-shares outstanding.
BM	Book-to-market ratio, defined as the book value of equity over the end-of-quarter market capitalization.
Turnover	Quarterly turnover, defined as the aggregate of daily turnover in the quarter. Daily turnover is calculated as daily trading volume over total shares outstanding.
INST	Institutional ownership, defined as the number of shares owned by institutional investors at the end of a quarter scaled by the total number of shares at the end of the quarter.

Appendix Table IV. Proportional Drift: SOE vs. NSOE

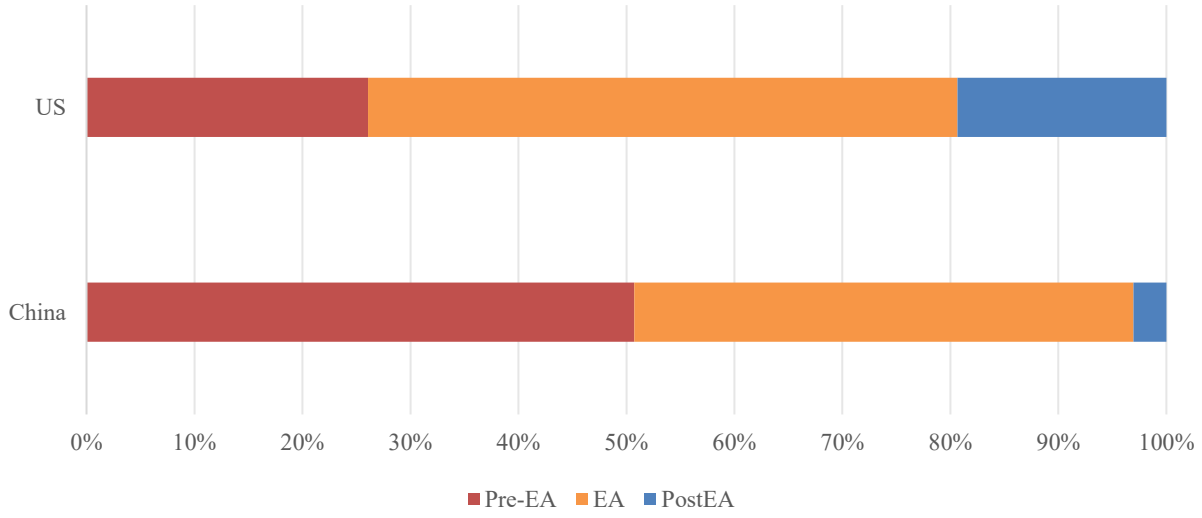
This table provide detailed calculation of proportionate drift. We calculate the pre-announcement proportionate drift as the market reaction to earnings surprises during the pre-earnings-announcement period, scaled by the market reaction to earnings surprises during the whole earnings-announcement periods. Similarly, the announcement proportionate drift and post-announcement proportionate drift are defined as *CAR [-1, +1]* and *CAR [2, 20]*, scaled by *CAR [-20, 20]*, respectively.

Dep.var		*CAR [-20, -2]* (1)		*CAR [-1, 1]* (2)		*CAR [2, 20]* (3)	
Variables		Coef.	*t*-Stat	Coef.	*t*-Stat	Coef.	*t*-Stat
PSUE	*a*	0.0290***	12.09	0.0302***	10.27	0.0052**	2.20
SOE	*b*	0.0031*	1.82	0.0005	0.50	-0.0046**	-2.10
*SOE*PSUE*	*c*	-0.0064***	-2.68	-0.0059***	-3.18	0.0034*	1.68
Change of proportionate drift		*Pre-EAD*		*EAD*		*Post-EAD*	
Formula for calculating proportionate drift							
NSOE		*1a/Total_NSOE*		*2a/Total_NSOE*		*3a/Total_NSOE*	
Total_NSOE=1a+2a+3a		45.03%		46.89%		8.07%	
SOE		*(1a+1c)/Total_SOE*		*(2a+2c)/Total_SOE*		*(3a+3c)/Total_SOE*	
Total_SOE=1a+1c+2a+2c+3a+3c		40.72%		43.78%		15.50%	
Diff. of proportionate drift		-4.31%		-3.11%		7.42%	

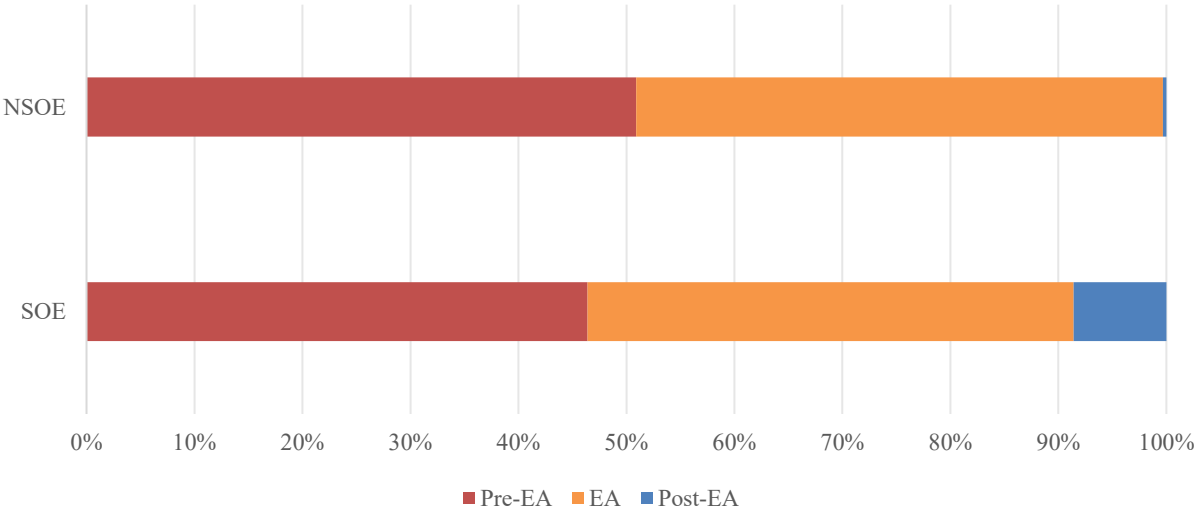
Appendix Figure I. Proportionate Drift

Appendix Figure I presents the proportionate drift of the pre-earnings announcement (t = -20 to -2), announcement (t = -1 to 1) and post-earnings announcement (t = +2 to +20) periods. Panel A reports the results for both the U.S. and China. Panel B reports the results for SOEs and NSOEs in China. We calculate the pre-announcement proportionate drift as the cumulative abnormal returns during the pre-earnings-announcement period, *CAR [-20, -2]*, scaled by the market reaction to earnings surprises during the whole earnings-announcement periods, *CAR [-20, +20]*. Similarly, the announcement proportionate drift and post-announcement proportionate drift are defined as *CAR [-1, +1]* and *CAR [2,20]*, scaled by *CAR [-20,20]*, respectively.

Panel A. Proportionate Drift for both the U.S. and China



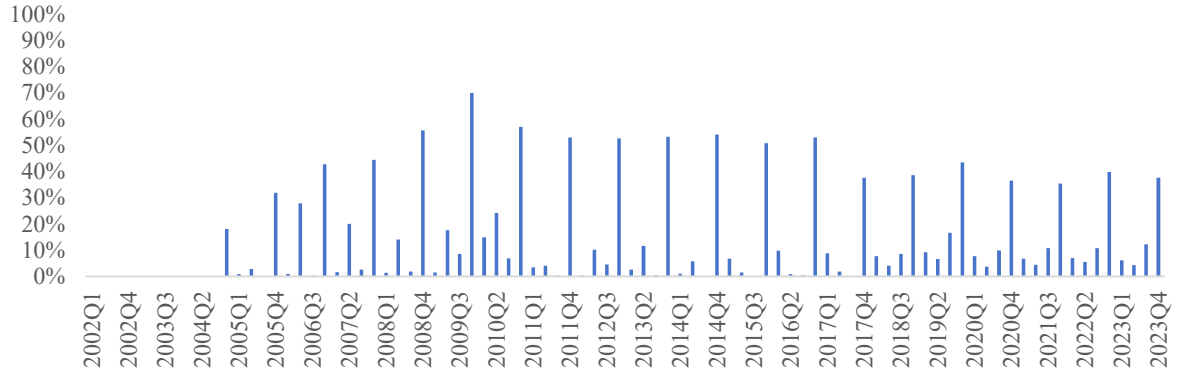
Panel B. Proportionate Drift for SOEs and NSOEs in China



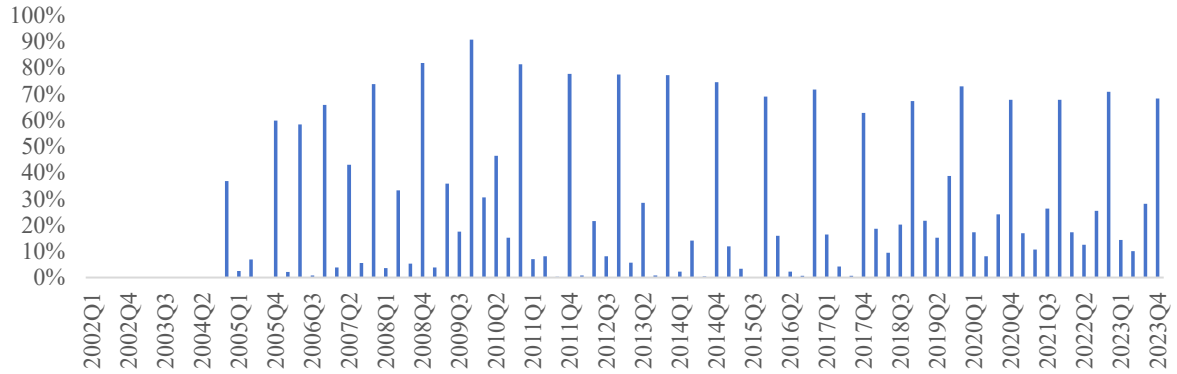
Appendix Figure II. Coverage of Analyst-based SUE

This figure presents the percentage of firms with analyst-based *SUE* relative to the total number of firms for each fiscal quarter. Our sample covers all quarterly earnings announcements between 2002Q1 and 2023Q4 for firms listed on the SHSE and SZSE, except for observations with ST, *ST or PT labels or listed less than 6 months. Panel A displays the results for all firms. Panels B and C present the results for largest firms and smallest firms, respectively. Size-tertiles are assigned at the end of previous calendar quarter based on stocks' market value of equity.

Panel A. Coverage of Analyst-based SUE for All Firms



Panel B. Coverage of Analyst-based SUE for Largest Firms (Size Tertile3)



Panel C. Coverage of Analyst-based SUE for Smallest Firms (Size Tertile1)