The Information Intermediary Role of Retail Investors:
Evidence From the *Subreddit WallStreetBets*

ABSTRACT

This paper investigates the role of retail investors as information intermediaries in capital markets. Using unique data derived from daily user posts on the *subreddit WallStreetBets*, we examine the impact of the retail investor activity on price responsiveness and stock volatility surrounding earnings announcements. Our findings reveal that *WallStreetBets* coverage is positively associated with abnormal stock return, abnormal trading volume, and bid-ask spread during the two-day window around earnings announcements. These effects are more pronounced for firms with greater earnings surprises, smaller market capitalization, fewer analyst followings, and lower institutional ownership. The results suggest that retail investors facilitate the dissemination of fundamental information, particularly in less-followed stocks, thereby reducing information asymmetry. This study highlights the role of retail investors through social media platforms like *WallStreetBets* in contributing to the price discovery process, even as their activity introduces greater market volatility.

Keywords: Information intermediary, retail investors, earnings announcement, social media, *Reddit*, *WallStreetBets*, meme stock, price responsiveness, stock volatility

1. Introduction

Retail investors are becoming increasingly active and exerting greater influence in capital markets. Users on social media platforms, such as the *subreddit WallStreetBets*, are primarily retail investors who seek community input and engage in the trading of "meme stocks" that gain popularity through social media discussions.[1] In early 2021, the *WallStreetBets* community experienced rapid growth, reaching nearly 10 million subscribers and generating over 271 million daily pageviews. This surge in social media activity coincided with dramatic increases in the stock prices of meme stocks; notably, GameStop's stock price escalated twentyfold, and AMC's stock price soared tenfold in January 2021. Motivated by these phenomena, we analyze data from daily user posts on the *WallStreetBets* to examine the impact of the retail investor activity on capital markets.

As the moderators of *WallStreetBets* noted, "*Moderating WSB has taught us that retail investors can be every bit as sophisticated as institutional investors, and, in some cases even more so"*.[2] Retail investors have demonstrated their ability to influence stock trading through sophisticated and tactical strategies, challenging traditional views of their market role. This observation prompts our investigation into whether retail investors function as information intermediaries in capital markets. In specific, we explore their role during corporate earnings announcements by addressing the following research questions: (1) Does retail investor coverage on *WallStreetBets* affect stock price responsiveness to earnings announcements? (2) Does retail investor coverage on *WallStreetBets* affect stock volatility around earnings announcements?

The information intermediary literature of retail investors provides conflicting findings. On

[1] Meme stock is defined as a stock that attains viral attention on social media platforms, but predominately *Reddit*. See *https://www.yahoo.com/now/meme-stock-mania-5-lessons-220010930.html*

[2] See https://www.yahoo.com/now/wallstreetbets-moderators-forum-culture-misunderstood-181704354.html.

one hand, retail investors are viewed as noise traders (e.g., Lee, 2001; Hirshleifer, 2015) because they do not consider value-relevant accounting information in making investment decisions (Hirshleifer et al., 2009; Ayers et al., 2010), disregard earnings information (Blankespoor et al., 2019), chase attention-grabbing trends (Barber and Odean, 2013), trade on technical trends in response to the trailing returns (Grinblatt and Keloharju, 2000; Kaniel et al., 2008), and thus hinder price formation (Drake et al., 2017). On the other hand, retail traders can provide liquidity to the stock market and predict stock returns (e.g., Kelley and Tetlock, 2013; Ding and Hou, 2015; Bartov et al., 2018; Ozik et al., 2021). In addition, the most recent research shows that Reddit traffic predicts higher returns and more positive retail order flow (Hu et al., 2021), and retail trader activity on *Robinhood* is associated with higher earnings response coefficients (Friedman et al., 2021; Michels, 2022). In this paper, we investigate the relationship between retail investor coverage on *WallStreetBets* and two critical components of the price formation process around earnings announcements: price responsiveness and stock volatility.

We focus the empirical tests on quarterly earnings announcements because Drake et al. (2017) find that earnings announcements have the strongest association with internet coverage and attract significant attentions from internet intermediaries among all financial-based corporate press releases. The plot in in Figure 1, which depicts daily percentage changes in *WallStreetBets* user posts over an 11-day trading period centered on the earnings announcement date (i.e., day -5 to day +5), reveals a dramatic surge in user posts around earnings announcements. On average, posts increase by 87%, underscoring the significance of studying earnings announcement events. Given the rise of online brokerage platforms (e.g., *Robinhood*) and commission-free stock trading since the pandemic-induced lockdowns in 2020 (Ozik et al., 2021), coupled with the costless nature of information dissemination through social media posts (Blankespoor et al., 2020), we hypothesize

that *WallStreetBets* coverage positively influence price responsiveness and stock volatility in response to earnings announcements.

The new generation of retail investors relies heavily on social media networks to develop their trading strategies and gather investment information. Features of social media platforms range from in-depth articles on investing websites to brief messages on social networking platforms. However, the mix of professional analysts and individual users on investing websites (e.g., *Seeking Alpha*, *Morningstar*, and *MarketWatch*) obfuscate the specific study on retail investors, while the investment-specific data from general social networking platforms (e.g., *Twitter*, *Facebook*, and *Discord*) is difficult to filter. The *WallStreetBets* community forum is a subreddit social media platform where retail investors discuss stock and equity option trading. *WallStreetBets* rose to almost 10 million users in early 2021 and contains more than 7 million available user posts in the sample period, which allows us to use the data pertaining to retail investors and analyze the relationship between *WallStreetBets* user posts and market reactions during quarterly corporate earnings announcements.

Retail investor coverage is measured by the *subreddit WallStreetBets* user posts. The data is derived from *Pushshift API*, a big-data storage and analytics tool that maintains a copy of *Reddit* comments and submissions. We collect all available *WallStreetBets* user posts from 2020 to 2022, and use Python to filter the daily the *WallStreetBets* coverage data. We find that the *WallStreetBets* coverage is positively associated with abnormal stock returns, abnormal trading volume, and bid-ask spreads. In addition, these positive associations are more pronounced in firms with larger magnitude of earnings surprises, smaller market capitalization, fewer analyst followings, and lower institutional ownership. The results are robust using the entropy balancing approach and alternative measures. Overall, our research suggests that, despite the potential to increase volatility in the capital

markets, retail investors play a crucial role in the pricing of accounting information by facilitating price responsiveness to earnings announcements through social media platforms such as *WallStreetBets*.

This study contributes to the literature in several respects. First, while prior studies have examined the impact of social media on the capital market (e.g., Bradley et al., 2021; Hu et al., 2021; Aloosh et al., 2023; Long et al., 2023), to my knowledge, this is the first paper to utilize data from *Reddit WallStreetbets* user posts to explore the role of retail investors as information intermediaries in response to earnings announcements. By focusing on meme stocks that are extensively discussed on *WallStreetBets*, this paper addresses a critical gap, demonstrating that these stocks exhibit heightened price responsiveness to earnings announcements.

Second, this study provides new insights into the role of retail investors in the information environment and their connection to fundamental considerations. While earlier studies often criticize retail investors for introducing noise or inefficiency into capital markets (e.g., Lee, 2001; Hirshleifer, 2015), our findings reveal that retail investor activity on *WallStreetBets* is associated with positive market outcomes, including more efficient responses to earnings surprises. Contrary to the prevailing perception that meme stocks are detached from fundamentals, our results highlight the continued relevance of accounting information for these stocks. This suggests that retail investors enhance the price discovery process by providing additional, valuable information to market participants.

Lastly, this study contributes to the ongoing debate regarding the role of social media in capital markets. Although prior research presents mixed evidence on the effects of social media, our findings support the notion that platforms like *WallStreetBets* act as information intermediaries by facilitating the dissemination of market-relevant information.

The remainder of this paper is organized as follows. Section 2 provides the background, literature review, and hypothesis development. Section 3 describes data, sample selection, and research methodology. Section 4 reports the results of empirical tests, cross-sectional analyses, and additional sensitivity tests. Section 5 draws conclusion.

2. Background, Related Literature, and Hypotheses Development

2.1 Background of *Reddit WallStreetBet*

Pandemic-induced lockdowns in 2020 expedited retail investors' participation in stock trading and discussions about trading strategies on social media forums such as *Reddit WallStreetBets*. *Reddit*, a social media platform founded in 2005, reported more than 52 million daily active users and 430 million monthly active users as of 2020.[3] In January 2021, the amount of *WallStreetBets* subscribers approached to almost 10 million. On January 28, 2021, *WallStreetBets* generated over 68 thousands posts and 338 thousands comments and received over 271 million pageviews in a single day, making it the third most visited website of the day (behind only *Google* and *YouTube* but ahead of *Facebook*).[4]

Many *WallStreetBets* members were enraged by the bailout of investment firms during the financial collapse, and were motivated to criticize the hedge fund establishment as a result. In January of 2021, *WallStreetBets* members devised a strategy to punish hedge funds while profiting by synchronizing buy orders and call options to leverage their capital, resulting in large upward movements for GME's previously floundering stock prices. The abrupt change in price direction compelled hedge funds, such as *Citron*, to purchase additional GME shares to cover short bets, resulting in a short squeeze. From January 4, 2021 to January 29, 2021, GME stock price

[3] https://www.businessofapps.com/data/reddit-statistics/.
[4] https://subredditstats.com/r/WallStreetBets.

skyrocketed from $17 to $325, a nearly 20-fold increase. Regulators claimed that GME speculation endangered the entire market. They proposed a trading halt in GME due to the concern that *WallStreetBets* would drive uninformed trading and harm less experienced retail investors, despite the fact that WBS posts and users are believed to be somewhat sophisticated.[5] Retail investors have demonstrated that they can be a force to be reckoned with in stock trading, executing complex tactical trading strategies that intentionally up-end hedge fund positions in order to drive a company's stock price well above its intrinsic value.

2.2 Related Literature on Meme Stocks

Expanding research explores the impact of meme stocks on the stock market but finds contradictory results. Some research finds that meme stocks that experienced short-squeeze episodes significantly hampered market quality (Allen et al, 2021), and social media advice may harm investors and impede price discovery (Jia et al., 2020). Therefore, regulators warned that meme stocks are risky.[6] In contrast, other research indicates certain advantages to meme stocks. For example, studies find that not only does meme stock trading not degrade market efficiency (Aloosh et al., 2023), but meme stock momentum is also significantly and positively associated with stock returns (Costola et al., 2021). In addition, the increased *WallStreetBets* comments can predict higher stock returns and more positive retail order flow (Hu et al., 2021; Bradley et al., 2021). However, few researchers have explored the interplay between accounting information, social media, and market dynamics within the context of meme stocks. To fill this gap, we investigate the impact of the meme stock phenomenon on the capital market outcomes around earnings announcements.

[5] https://www.nbcnews.com/business/business-news/gamestop-reddit-explainer-what-s-happening-stock-market-n1255922.
[6] https://www.nytimes.com/2021/11/08/business/fed-meme-stocks-social-media-volatility.html#:~:text=The%20Fed%20also%20warned%20that,and%20losses%20that%20meme%20stock.

2.3 Related Literature on the Role of Social Media in Financial Markets

The functions of social media in capital markets include reducing awareness and acquisition costs by monitoring for and republishing public information, reducing integration costs by synthesizing and interpreting the implications of public information for firm value, and uncovering private information (Blankespoor et al., 2020). The social media platform features vary widely from in-depth articles on investing websites (e.g., *Seeking Alpha*, *Morningstar*, *MarketWatch*, and etc.) to brief messages on social networking (e.g., *Twitter*, *Reddit*, *Discord*, and etc.). Social media has nowadays become one of the mainstream resources for investors to acquire investment information; however, existing research on social media and its usefulness yields mixed results when data sources come from different websites and platforms. For example, Drake et al. (2017) show that coverage by professional intermediaries (e.g., *Dow Jones Newswires*) and semi-professional intermediaries (e.g., *Seeking Alpha*) around earnings announcements days are associated with positive capital market effects, whereas nonprofessional internet coverage (e.g., online blogs) hinders price formation. Blankespoor et al. (2014) find that press releases news disseminated directly to market participants via *Twitter* can reduce information asymmetry among investors while increasing market liquidity. Curtis et al. (2016) find that social media activities from *Twitter* and *StockTwits* are associated with faster price responses to earnings announcements. Jame et al. (2016) use *Estimize* to investigate the value of crowdsourced earnings forecasts and find that *Estimize* forecasts are incrementally useful in forecasting earnings and measuring market's earnings expectations. Huang et al. (2020) examine the information content of employee social media disclosures from *Glassdoor* and find that average employee outlook is incrementally informative in predicting future operating performance. These studies imply that social media may contain value relevant accounting

information, such as corporate disclosure, earnings forecasts, product reviews, and even employee workplace reviews.

2.4 Related Literature on the role of Retail Investors in Financial Markets

Through social media, retail investors can discuss their interpretations and understanding of corporate performance and interact with one another. The variety of viewpoints that underlie these crowdsourced interpretations helps to enlighten the capital markets. However, existing literature on the information role of retail investors presents conflicting findings. On one hand, because most retail investors lack financial skills, technical tools, sufficient resources and work time, the information provided by retail investors is more likely to be intuition-based rather than value-relevance-based. Lee (2001) claims that retail investors often provide noisy information and shows that noise traders act on value-irrelevant signals because they are unable to evaluate the signal quickly and accurately in the face of nearly continuous information flows. Hirshleifer (2015) provides evidence that an environment in which a group of noise traders relies on the same noisy signal coordinates trades in the direction of the noise rather than the direction of fundamentals. A large number of studies argue that retail investors' information increases noises to the information environment and has a negative impact on markets. For example, retail investors do not consider value-relevant accounting information in making investment decisions (Hirshleifer et al., 2009; Ayers et al., 2010), disregard earnings information (Blankespoor et al., 2019), chase attention-grabbing trends (Barber and Odean, 2013), trade on technical trends in response to the trailing returns (Grinblatt and Keloharju, 2000; Kaniel et al., 2008), and thus hinder price formation (Drake et al., 2017). On the other hand, retail traders can provide liquidity that allows arbitrageurs to trade in a way that corrects mispricing and incorporates information. Cheng et al. (2011) conclude that

the short-term improvement on liquidity can be attributable to retail trades. Ding and Hou (2015) find that retail investor attention significantly expands the shareholder base and improves stock liquidity. Kelley and Tetlock (2013) show that retail market orders predict stock returns and firm news and suggest that retail investors convey private cash flow information. Ozik et al. (2021) contend that during the COVID-19 pandemic lockdown, retail investors act as liquidity providers by dramatically increasing retail tradings and holdings.

The exploration of *WallStreetBets*'s role in capital markets has gained traction within the academic literature in recent years. For example, Hu et al. (2021) find that increased *Reddit* traffic predicts higher returns and more positive retail order flow. Bradley et al. (2021) employ a small subset of WBS posts (i.e., *due diligence reports*) and conclude that both *WallStreetBets* posts and users are skilled, which is supported by the findings that retail investors increase trading sharply following publication and earn higher returns. Betzer and Harries (2022) concentrate solely on the *WallStreetBets* posts of *GameStop* and provide support for the attention-grabbing theory of retail investors but they find no indication of the informativeness of WBS posts. These three papers, however, do not take accounting information events into account, and this paper differs from them in that it focuses on retail investors' information role in response to earnings announcements. Several studies examine retail investors' trading around earnings announcements. Bartov et al. (2018) use *Twitter* data from 2009 to 2012 and find that the aggregate opinion from individual tweets successfully predicts quarterly earnings and announcement returns. Friedman et al. (2021) and Michels (2022) use *Robinhood* data from 2018 to 2020 and provide evidence that retail trader activity is associated with higher earnings response coefficients. However, the sample periods in these three studies occur before the famous *Gamestop* event in January 2021, which marked the beginning of the surge in retail trading and the growing influence of retail investors on stock markets.

2.5 Hypotheses Development

My study focuses on whether retail investors function as information intermediary in capital markets around earnings annocements from the perspectives of two capital market outcomes: price responsiveness and stock volatility. These two constructs play pivotal roles in the price formation process, providing a comprehensive exploration of the overall impact of the *WallStreetBets* coverage on price dynamics. While prior literature often critiques retail investors for introducing noise to the information environment and negatively affecting stock markets (Hirshleifer et al., 2009, 2015; Ayers et al., 2010; Barber and Odean, 2016; Drake et al., 2017; Blankespoor et al., 2019), our study adopts a contrasting perspective.

We anticipate that *WallStreetBets* coverage serves as a channel for price-relevant information, promoting its spread to the stock markets. Several factors support this expectation. Firstly, the surge in retail trading following pandemic-induced lockdowns in 2020 has facilitated the widespread dissemination of retail investors' opinions, particularly through fervent discussions on online forums like *Reddit WallStreetBets*. Secondly, the advent of fintech innovations, such as commission-free trading on online brokerage platforms and mobile apps like Robinhood, has attracted a growing cohort of retail investors to the capital market (Ozik et al., 2021). Thirdly, the near-zero awareness and acquisition costs associated with information obtained through social media amplify its accessibility and dissemination speed (Blankespoor et al., 2020). Given that retail investors' social media posts are typically brief and straightforward, lacking intricate professional jargon, the content is less complex compared to corporate disclosures and analyst forecasts. This suggests that the integration costs of information become lower through social media dissemination.

The primary hypothesis examines whether the *WallStreetBets* coverage influences stock

price responsiveness, measured by the initial market reactions (cumulative abnormal returns and abnormal trading volume) to earnings announcements. We posit a positive association between the *WallStreetBets* coverage and stock price responsiveness. Formally, the first hypothesis is articulated as follows:

H1:* The *WallStreetBets* coverage *is associated with greater price responsiveness to earnings announcements.

H1a:* The *WallStreetBets* coverage *is associated with greater abnormal stock returns around earnings announcements.

H1b:* The *WallStreetBets* coverage *is associated with greater abnormal trading volume around earnings announcements.

The second hypothesis investigates the impact of the *WallStreetBets* coverage from online trading forums on the volatility of a specific stock. Retail investors, influenced by value-irrelevant signals for non-informative reasons (Lee, 2001; Hirshleifer et al., 2009), may engage in trading activities driven by factors such as misperceptions of future returns, shifts in risk aversion, or hedging needs (Barber et al., 2009). Consequently, retail investors can exhibit behavior akin to noise traders, introducing market noise and amplifying volatility. Moreover, retail investors often supply liquidity as a group (Barro et al., 2016), and recent studies highlight their concerted efforts in increasing holdings and mitigating market illiquidity during the Covid-19 pandemic (Ozik et al., 2021).

Anticipating the noise-trading behavior of retail investors, we hypothesize a positive association between the *WallStreetBets* coverage and stock volatility, indicating elevated risks for stocks garnering more attention from retail investors. Formally, the second hypothesis is articulated as follows:

H2:* The *WallStreetBets* coverage *is associated with greater stock volatility around earnings announcements.

3. Data and Methodology

3.1 Data and sample

In this paper, we focus on one *Reddit* community forum, *WallStreetBets* , where retail investors discuss the trading of stocks and equity options. We pull all user posts on the *WallStreetBets* forum in the sample period from *Pushshift API*, a big-data storage and analytics tool that maintains a copy of *Reddit* comments and submissions (Baumgartner et al., 2020).[7] We collect all available *WallStreetBets* user posts from January 1, 2020 to April 1, 2022 and then use Python to generate the *WallStreetBets* coverage data in this paper. We begin by compiling a list of all tickers mentioned on the *WallStreetBets* that are followed by a dollar sign, because "$TICKER" is frequently used by retail investors on *Reddit* when discussing a specific company. The tickers with generic meanings based on the slang phrases, frequently used vocabularies, and the unique lingo and terminology of this forum are manually removed, such as "YOLO", "DD", "MOON", "GO", and "HOLD". [8] [9] By filtering the *WallStreetBets* user posts, we are able to identify user posts that mention a particular stock. We next merge the *WallStreetBets* coverage data with stock return data from CRSP, financial data from Compustat, and analyst estimates data from IBES around earnings announcement dates, yielding 31,088 observations. After dropping observations with missing control variable information, the final sample consists of 30,531 observations with 6,320 observations defined as meme stocks, as shown in Table 1. Panel A of Table 2 provides the sample distribution across quarters. Observations are almost evenly distributed across each quarter during the sample period. Panel B of Table 2 shows the sample distribution by industry: 16.26% of

[7] https://www.reddit.com/r/pushshift/comments/bcxguf/new_to_pushshift_read_this_faq/.
[8] See Appendix B for examples of the WALLSTREETBETS user posts and Appendix C for details of ticker lists in the sample.
[9] For more details of the lingo/slang used in the WSB, see the "Basic guide to WallStreetBets culture for Newcomers," available at https://www.reddit.com/r/WallStreetBets/comments/l7fr21/basic_guide_to_WallStreetBets_culture_for/.

observations are found in Pharmaceutical Products, followed by 11.90% in Business Services, and 9.18% in Banking.

(Insert Table 1 and Table 2 here)

3.2 Research Design

We concentrate the empirical tests on the public information of quarterly earnings announcements. By studying the effect of internet coverage on six types of corporate press releases, Drake et al. (2017) find that earnings announcements, among all the financial-based measures of the news released, show the strongest association with internet coverage and receive significant attention from internet intermediaries.[10]

The first hypothesis relates to whether the *WallStreetBets* coverage affects price responsiveness in the capital market around earnings announcements. We use the two-day period of the absolute value of abnormal stock returns and abnormal trading volume beginning on the earnings announcement date (days 0 and +1) as two proxies for price responsiveness to earnings news. We estimate the following regression to test H1a and H1b at the firm-quarter level:

$$\boldsymbol{absCAR[0,1]_{i,t}\ or\ AbVol[0,1]_{i,t} = \beta_0 + \beta_1 COV_{i,t} + \beta_2 X_{i,t} + \beta_3\, Industry_j + \beta_4 Quarter_i + \varepsilon_{i,t}} \quad \textbf{(1)}$$

The *WallStreetBets* coverage (*COV*) are measured by three proxies: (1) a continuous variable of the natural log of the count of the *WallStreetBets* user posts that discuss the company in 30 days to 5 days prior to the earnings announcement date (*COV[-30,-5]*), which represents the social media attention on *WallStreetBets* that the company receives during the pre-earnings announcement period; (2) an indicator variable for the stock being mentioned on the *WallStreetBets* (*WSBstock*), and (3)

[10] Drake et at. (2017) study the effects of internet coverage on six types of corporate press release, including earnings announcements, earnings news released outside the earnings window, press release related to its credit rating, dividend- or equity-related press release, and mergers and acquisitions-related press release, and nonfinancial press release in nature (e.g., product releases, labor issues, legal matters, etc.).

an indicator variable for the stock gaining popularity among retail investors (*MEMEstock*) if the *WallStreetBets* user posts rank above the sample median. We regress the three proxies of *WallStreetBets* coverage on two market response variables. In H1a, we measure abnormal returns as the absolute value of two-day cumulative abnormal returns from the announcement date using the standard market mode (*absCAR[0,1]).* In H1b, abnormal trading volume is the sum of abnormal trading volume over the two-day earnings announcement window (*AbVol[0,1]*), where abnormal trading volume is calculated as daily trading volume scaled by shares outstanding less average daily trading volume over the prior month scaled by shares outstanding. Alternative windows of [-1, +1] and [-2, +2] and alternative measure of cumulative abnormal returns (*CAR[0,1]*) are also examined, with the results presented in Section 4.4.

X represents a set of controls. We first control for the variables that capture earnings surprises. Existing literature provide evidence that post-announcement returns drift in the direction of the earnings surprises, which is related to press coverage (e.g., Fang and Peress, 2009; Hirshleifer et al., 2009); thus, we control for the magnitude of earnings surprise (*absES*) and a negative surprise indicator variable (*negES*). We next include variables that capture firm visibility (Collins and Kothari, 1989), including the natural log of market value of equity (*Size*), market-to-book ratio (*MTB*), return-on-assets ratio (*ROA*), S&P 1500 membership (*SP1500*), the percentage of outstanding shares held by institutional ownership (*IOR*), and the natural log of one plus the number of analysts covering the firm (*AF*). Finally, we control for pre-earnings daily share turnover (*Turn_prior*), daily return volatility (*Stdret_prior*), and abnormal stock returns (*CAR_prior*), all of which are measured over the 30-day period preceding the earnings announcement. Industry fixed effects and quarter fixed effects are included in the above model. Firm, industry, and quarter are

denoted by the subscripts i, j, and t, respectively. All continuous variables are winsorized at 99% and 1%, and standard errors are clustered at the firm level.

To test the second hypothesis, we use bid-ask spreads (*Spread*) to measure stock volatility during the two-day earnings announcement window as the dependent variable. Bid-ask spread (*Spread*) is calculated by the highest price minus the lowest price deflated by the close price of a day during the two-day earnings announcement window. This measure captures short-term liquidity and can help interpret the relationships between retail trade, volatility, and market quality (Eaton et al., 2021). The OLS regression to test H2 is as follows:

$$\boldsymbol{Spread[0,1]_{i,t} = \beta_0 + \beta_1 COV_{i,t} + \beta_2 X_{i,t} + \beta_3\ Industry_j + \beta_4\ Quarter_i + \varepsilon_{i,t}} \quad \textbf{(2)}$$

4. Results of Empirical Tests

This section presents the descriptive statistics, main results, cross-sectional analyses, and additional sensitivity tests. We begin with tests of H1a and 1Hb to investigate the association between the *WallStreetBets* coverage and price responsiveness around earnings announcements. The second test examines the impact of the *WallStreetBets* coverage on stock volatility according to H2. Entropy balancing method is applied to support the main results in H1 and H2 using the indicators of *WSBstock* and *MEMEstock* as proxies for coverage in the models. We implement cross-sectional tests to further investigate the relationship between the *WallStreetBets* coverage and price responsiveness with the consideration of earning surprise, firm size, analyst following, and institutional ownership. Sensitivity tests provide robustness checks using alternative variables and windows for abnormal stock returns.

4.1 Descriptive Statistic

We begin by studying changes in the *WallStreetBets* coverage around earnings announcements. Figure 1 depicts the daily percentage changes in user posts of stocks on *Reddit WallStreetBets* over an 11-day trading period centered on the earnings announcement date (day -5 to day +5). We find that the *WallStreetBets* coverages surge dramatically on the earnings announcement dates, with an average increase of 87% among the sample, proving the importance of studying earnings announcement events in the study.

(Insert Figure 1 here)

Table 3 presents descriptive statistics of the variables used to test H1 and H2. There are fourty retail investor posts on *WallStreetBets* over a 26-day window (*COV[-30,-5](raw)*=39.63) surrounding earnings announcements on average. An average firm in the sample has a market value of equity of $9.62 billion, a market-to-book ratio of 4.14, a return-on-assets ratio of -0.02 ,a following of two analysts, and an aggregate institutional ownership of 69%. There are 32% of firms reporting earnings per share that lower than analysts' forecasts and 41% of firms being listed on the S&P 1500.

According to the comparison of summary statistics between treatment group (*MEMEstock=1*) and control group (*MEMEstock=0*) shown in Panels B of Table 3, the average earnings announcement receives roughly 137 posts in the subsample of meme stocks. The average magnitude of cumulative abnormal stock return (*absCAR[0,1]*) is 1.21% higher for meme stocks. In addition, the treatment group has larger abnormal trading volume, bid-ask spread, earnings surprises, firm size, market-to-book ratio, return-on-assets ratio, S&P1500 listing ratio, institutional ownership ratio, and analyst followings than the control group.

(Insert Table 3 here)

4.2 Main Results

4.2.1 Tests of H1: The effect of the *WallStreetBets* coverage on price responsiveness to earnings announcements

The results of Model (1) to test H1a and H1b are reported in Table 4 and Table 5. The coefficients on the three the *WallStreetBets* coverage variables (β_1) indicate whether the market response to the earnings announcement is related to the amount of coverages the companies receive from *WallStreetBets* retail investors, controlling for other determinants of the market response. Table 4 shows that when the dependent variable is the absolute value of the cumulative abnormal stock returns during the two-day earnings announcement window (*absCAR[0,1]*), the coefficients of the *WallStreetBets* coverage are positive and significant in all of the three columns. In terms of economic significance, a 1% increase in the *WallStreetBets* user posts (*COV[-30,-5]*) is associated with a 0.22% increase in the magnitude of the cumulative abnormal stock returns over the two-day earnings announcement window ($p<0.01$). The magnitude of the cumulative abnormal stock returns is averagely 0.37% ($p<0.01$) higher for the stocks mentioned on *WallStreetBets* (*WSBstock*) and 0.52% ($p<0.01$) higher for meme stocks (*MEMEstock*). These results are consistent with the notion that the *WallStreetBets* coverage improves stockprice responsiveness, as evidenced by higher abnormal stock returns around earnings announcements, thereby supporting H1a.

(Insert Table 4 here)

In Table 5, when the dependent variable is the abnormal stock trading volume during the two-day earnings announcement window (*AbVol[0,1]*), We find that the coefficients of the *WallStreetBets* coverage are also positive and significant in all three columns. The findings of positive association between the *WallStreetBets* coverage and abnormal stock trading volume around earnings announcements support H1b. Overall, we conclude that price responsiveness to

earnings announcements is increasing in the amount of *WallStreetBets* coverage, indicating that *WallStreetBets* retail investors serve an information role in the capital market around earnings announcements.

We include control variables that capture earnings surprises, firm visibility, and other determinants of the market reactions prior to the earnings announcement. In terms of these variables, we find that the price responsiveness to earnings announcement is positively associated with the magnitude of the earnings surprise, market-to-book ratio, analyst followings, pre-earnings daily share turnover, and firms with higher stock volatility in the pre-earnings announcement period; on the contrary, the price responsiveness is negatively associated with firm size, return-on-assets ratio, and S&P1500 listing.

(Insert Table 5 here)

4.2.2 Tests of H2: The effect of the *WallStreetBets* coverage on stock volatility to earnings announcements

Table 6 reports the results of Model (2). The coefficients on the three the *WallStreetBets* coverage variables (β_1) reveal whether the volatility of a specific stock in response to an earnings announcement is correlated with *WallStreetBets* coverage. When the dependent variable is bid-ask spreads during the two-day earnings announcement window (*Spread[0,1]*), the coefficients of the *WallStreetBets* coverage are positive and significant in all three columns. In terms of economic significance, a 1% increase in the *WallStreetBets* user posts (*COV[-30,-5]*) is associated with a 0.23% increase in bid-ask spread in the two-day earnings announcement window ($p<0.01$). The mean of bid-ask spread is 0.28% ($p<0.01$) higher for the stocks mentioned on *WallStreetBets* (*WSBstock*) and 0.46% ($p<0.01$) higher for meme stocks (*MEMEstock*). These findings support H2 that the *WallStreetBets* coverage increases stock volatility around earnings announcements. Overall, the

findings suggest that greater attentions received by meme stocks also raises the investment risks in these stocks.

(Insert Table 6 here)

4.2.3 Entropy Balancing Approach

Because the results may be affected by an imbalance in the samples of treatment group (*WSBstock*=1 and *MEMEstock=1*) and control group (*WSBstock*=0 and *MEMEstock=0*), We use an entropy balancing (EB) approach to mitigate this issue. EB approach is useful for reweighting the control group data to match the covariate moments in the treatment group without dropping any sample observations (Hainmueller, 2012). Recent research demonstrates that the EB approach outperforms other matching methods by focusing on covariate balance directly, avoiding the pitfalls of respecifying models and matching methods until balance is achieved (e.g., Hainmueller, 2012; Hainmueller and Xu, 2013; McMullin and Schonberger, 2020).

The descriptive statistics in Table 3 show that the treatment group has significantly greater firm visibility than the control group, as evidenced by larger firm size, higher S&P1500 listing ratio, greater analyst followings, and so on. First, we balance all control variables by the mean, variance, and skewness, conditioned on the two indicator variables of retail investor coverage: *WSBstock* and *MEMEstock*. After the EB procedure is applied, the mean, variance, and skewness of the control variables for the treatment group and control group become nearly identical, which suggests that there is a high level of homogeneity between the treatment and control samples following the EB procedure. Next, we re-estimate Model (1) and Model (2) on the two the *WallStreetBets* coverage indicator variables (*WSBstock* and *MEMEstock*) in H1 and H2 that examine the effects of the *WallStreetBets* coverage on two price responsiveness variables (*absCAR[0,1]* and *AbVol[0,1]*) and a stock volatility variable (*Spread[0,1]*) during the two-day earnings announcement window. Panel

A and Panel B of Table 7 reveal that the coefficients on *WSBstock* and *MEMEstock* remain positive and significant at the 1 % level, suggesting that the main findings are robust.

(Insert Table 7 here)

4.3 Cross-sectional Analyses

4.3.1 The Incremental Effect of Earnings Surprises on the Relationship Between *WallStreetBets* Coverage and Price Responsiveness

In the cross-sectional analyses, we first examine whether the *WallStreetBets* coverage from online trading forum affects price reaction to earnings surprise. On the one hand, prices underact to earnings surprises when investors are considered to be distracted followed by PEAD (e.g., DellaVigna and Pollet, 2009; Hirshleifer et al., 2009), implying a subsequent correction of the underreaction. If retail investors are susceptible to behavioral biases such as distraction, their activities should dampen market reactions to earnings news. Retail investors' activities ought to dampen market responses to earnings news if they are susceptible to behavioral biases like distraction. On the other hand, timely disclosure of earnings information can be disseminated through a variety of sources, including social medias such as *Twitter* (e.g., Blankespoor et al., 2014) as well as *Reddit* forums. Therefore, we expect stronger price reactions to earnings surprises for firms with higher *WallStreetBets* retail investors coverage. The regression is used as follows:

$$absCAR[0,1]_{i,t} = \beta_0 + \beta_1 COV_{i,t} + \beta_2 absES_{i,t} + \beta_3 COV_{i,t} * absES_{i,t} + \beta_4 X_{i,t} + \beta_5 X_{i,t} * absES_{i,t} + \beta_6 Industry_j + \beta_7 Quarter_i + \varepsilon_{i,t} \quad (3)$$

In model (3), we use the absolute value of the two-day cumulative abnormal returns around the announcement date (abs*CAR[0,1])* as the dependent variable. The coefficient of interest is *COV*absES*, β_3, and it is expected to be positive in order to support the hypothesis that greater *WallStreetBets* coverage is associated with stronger price reactions to earnings surprises. The

coefficient on the magnitude of earnings surprise (*absES*), also known as the earnings response coefficient (*ERC*), is measured as the absolute value of the difference between actual quarterly earnings per share and the most recent median consensus analyst forecast deflated by quarter-end share price. We further control the interactive terms of all control variables and earnings surprises (*X*absES*). Table 8 shows the results of estimating model (3). The coefficients on the interaction terms between the magnitude of earnings surprises (*absES*) and the two indicator variables of the *WallStreetBets* coverage (i.e., *WSBstock* and *MEMEstock*) are positive and significant at the 5% level. The positive coefficients indicate that meme stocks are associated with stronger price reactions to earnings surprises, which is consistent with our expectation.

(Insert Table 8 here)

4.3.2 The Incremental Effects of Firm characteristics on the Relationship Between *WallStreetBets* Coverage and Price Responsiveness

We next investigate whether the association between the *WallStreetBets* coverage and price responsiveness to earnings announcements is influenced by firm characteristics (*FC*), such as market capitalization (*Size*), analyst following (*AF*), and institutional ownership (*IOR*). We use the following model to examine the incremental effects of firm characteristics on the relationship between the *WallStreetBets* coverage and price responsiveness.

$$absCAR[0,1]_{i,t} \text{ or } AbVol[0,1]_{i,t} = \beta_0 + \beta_1 COV_{i,t} + \beta_2 FC_{i,t} + \beta_3 COV_{i,t} * FC_{i,t} + \beta_4 X_{i,t} + \beta_5 Industry_j + \beta_6 Quarter_i + \varepsilon_{i,t} \quad (4)$$

Table 9 displays the results of estimating model (4) where the dependent variable is the magnitude of abnormal stock returns (*absCAR[0,1]*) in Panel A and abnormal trading volume (*AbVol[0,1]*) in Panel B, separately. The variable of interest is the interaction term *COV*Size*, which *exhibits* negative and significant coefficients across all three columns corresponding to the

WallStreetBets coverage measures (i.e., *COV[-30,-5]*, *WSBstock*, and *MEMEstock*). Additionally, the coefficients associated with the three *WallStreetBets* coverage variables maintain positive and significant, thereby reinforcing the main findings. The results suggest that the positive correlation between *WallStreetBets* coverage and price responsiveness is less pronounced for larger firms.

(Insert Table 9 here)

Table 10 presents the outcomes of model (4), focusing on the incremental impact of analyst followings on the association between the *WallStreetBets* coverage and stock price responsiveness. The coefficients associated with the interaction term *COV*AF* consistently demonstrate negative and significant values at the 1% level across all three columns. Simultaneously, the coefficients related to the three *WallStreetBets* coverage variables remain positive and significant. These findings indicate that firms with fewer analyst followings experience higher abnormal stock returns and abnormal trading volume when there are more *WallStreetBets* user posts related to the company.

(Insert Table 10 here)

Table 11 displays the test results examining the incremental effect of institutional ownership (*IOR*) on the connection between the *WallStreetBets* coverage and stock price responsiveness. The coefficients of the three variables of the *WallStreetBets* coverage persistently show positive and significant, aligning with the primary findings. Utilizing an indicator variable to measure whether institutional ownership exceeds the sample median (*IOR_high*), the coefficients of *COV*IOR_high* are all negative and significant. This suggests that meme stocks with fewer institutional owners tend to experience higher abnormal stock returns and abnormal trading volume.

In summary, the cross-sectional results indicate that the *WallStreetBets* retail investors exert a more pronounced impact on price responsiveness surrounding earnings announcements in companies with smaller firm size, fewer analyst followings, and lower institutional ownership.

These findings suggest that companies initially with less exposure stand to gain more from increased social media attention.

(Insert Table 11 here)

4.4 Additional Sensitivity Tests

As a validity check, we explore two alternative measures for abnormal stock return by substituting the magnitude of abnormal return as the dependent variable in Model (1). First, using the two-day cumulative abnormal return (*CAR[0,1]*) around the announcement date (equally weighted index), we observe that the coefficients of the *WallStreetBets* coverage persistently display positive and significant values across all three columns. This supports H1a, indicating that the *WallStreetBets* coverage is linked to higher abnormal stock returns around earnings announcements.

Additionally, we divide the sample into two groups based on cumulative abnormal return polarity: positive (*CAR[0,1]>0*) and negative (*CAR[0,1]<0*). Surprisingly, the *WallStreetBets* coverage shows a more positive and significant association with positive cumulative abnormal returns, while it becomes negatively associated with negative cumulative abnormal returns. These findings suggest that the information conveyed by the *WallStreetBets* coverage may result in higher returns in a bullish market but lower returns in a bearish market.

Second, we assess the magnitude of cumulative abnormal return in different days of the earnings announcement window, considering a three-day window (*absCAR[-1,1]*) and a five-day window (*absCAR[-2,2]*). These alternative windows account for the impact of *WallStreetBets* coverage on pre-announcement returns as well, and the results align with the main findings. Both sets of alternative measures for abnormal stock return are further employed in cross-sectional analyses, and the results, not tabulated for brevity, remain consistent. Overall, we consistently find

a positive association between the *WallStreetBets* coverage and abnormal stock returns in response to earnings announcements, with this relationship being stronger for firms with greater earnings surprise, smaller market capitalization, fewer analyst followings, and lower institutional ownership.

5. Conclusions

The pandemic-induced lockdowns in 2020 accelerated the dissemination of stock-related information from retail investors through social media platforms, particularly exemplified by the *WallStreetBets* community on *Reddit*. The subsequent GameStop short squeeze in January 2021 showcased the sophisticated trading strategies and unprecedented collective power of retail investors, marking a significant shift in the dynamics of capital markets. The notable increase in the stock price and retail trading of meme stocks highlights the transformative influence of retail investors on market behaviors. In this paper, I examine whether retail investors can act as information intermediaries in the capital market in response to earnings announcements.

We utilize novel social media data derived from *Reddit WallStreetBets* daily user posts via the *Pushshift API* for the period from 2020 to 2022. We find a positive association between the pre-announcement *WallStreetBets* coverage and abnormal stock returns, abnormal trading volume, and bid-ask spreads during the two-day window of quarterly earnings announcement. We also find that the *WallStreetBets* coverage is associated with abnormal stock returns that are more responsive to earnings surprises. Furthermore, firm size, analyst followings, and institutional ownership all moderate the positive relationship between the *WallStreetBets* coverage and stock price responsiveness. Our results are further validated by entropy balancing approach and additional sensitivity tests using alternative measures of abnormal stock returns. Importantly, this paper provides implications that retail investors convey additional and useful information to market

participants by facilitating stock price responsiveness around earnings announcements, despite the potential for increased volatility in capital markets.

This study advances the understanding of retail investors' role in capital markets by offering three key contributions. First, it is the first to use the subreddit *WallStreetBets* user posts to examine the impact of retail investors as information intermediaries during earnings announcements, addressing a gap in the literature by showing heightened price responsiveness for meme stocks discussed on the platform. Second, the findings challenge traditional criticisms of retail investors by demonstrating their positive influence on market outcomes, including efficient responses to earnings surprises. Finally, this research contributes to the ongoing debate on social media's role in financial markets by providing evidence that platforms like *WallStreetBets* act as information intermediaries, facilitating the dissemination of market-relevant information.

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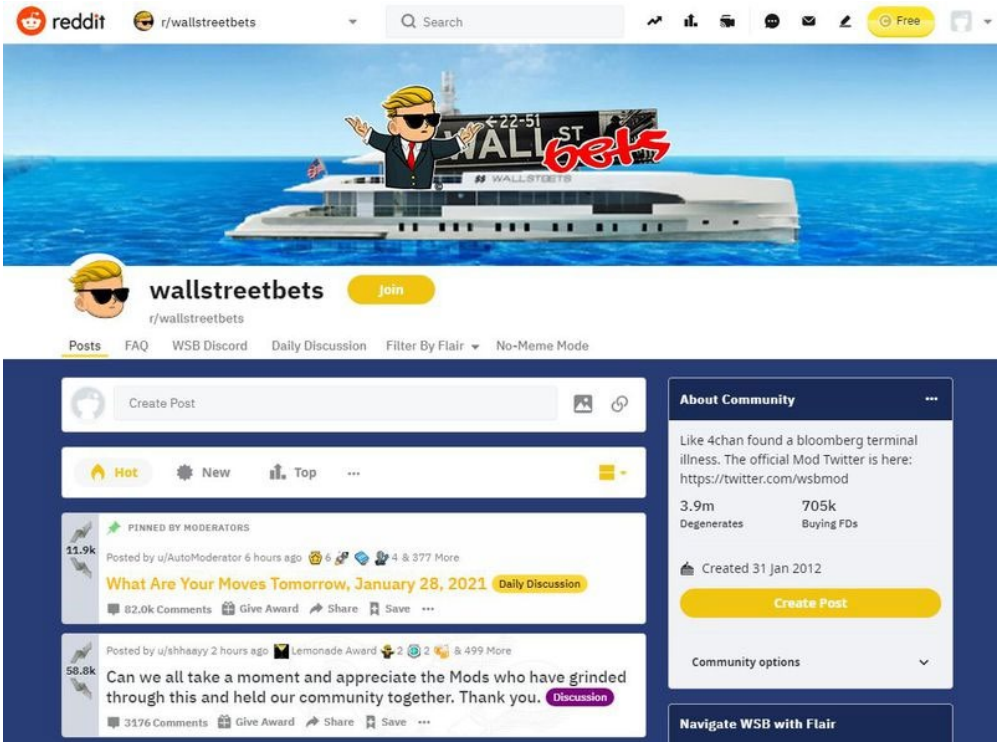
APPENDIX A

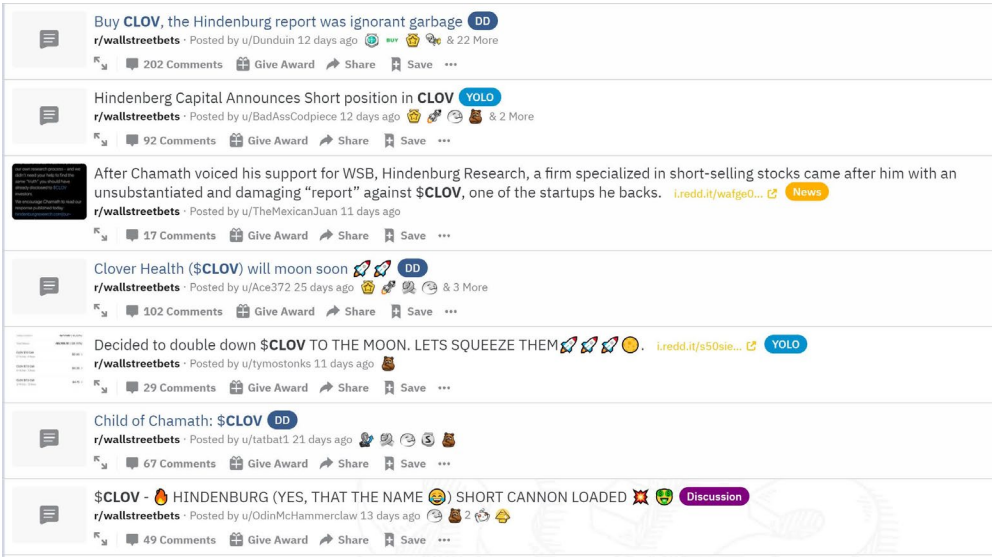
Variable	Definition	Source
Test Variables:		
COV[-30,-5]	The natural log of one plus the cumulative *WallStreetBets* daily user posts in 30 days to 5 days prior to the earnings announcement.	*Reddit*
WSBstock	Indicator variable that equals one for the observations with the cumulative *WallStreetBets* daily user posts in 30 days to 5 days prior to the earnings announcement greater than 0, and zero otherwise.	*Reddit*
MEMEstock	Indicator variable that equals one for the observations with the cumulative *WallStreetBets* daily user posts in 30 days to 5 days prior to the earnings announcement above the sample median, and zero otherwise.	*Reddit*
Dependent Variables in H1:		
absCAR[0,1] (%)	The absolute value of cumulative abnormal stock return over the two-day earnings announcement window [0,1] *100, calculated using the market model.	CRSP
AbVol[0,1]	Abnormal trading volume over the two-day earnings announcement window [0,1], calculated as daily trading volume scaled by shares outstanding minus average daily trading volume over the prior month scaled by shares outstanding.	CRSP
Dependent Variables in H2:		
Spread[0,1] (%)	Bid-ask spread, measured by the highest price minus the lowest price deflated by the closing price over the two-day earnings announcement window [0,1] *100.	CRSP
Control Variables :		
absES	The magnitude of earnings surprise, measured by the absolute value of the difference between actual quarterly earnings per share and the most recent median consensus analyst forecast deflated by quarter-end share price.	IBES, CRSP
negES	An indicator variable that equals to one if the earning surprise is negative and zero otherwise.	IBES, CRSP
Size	The natural log of market value of equity on the earnings announcement date.	CRSP
MTB	Market to book ratio at the end of the quarter for which earnings are announced.	Compustat
ROA	Return on assets ratio at the end of the quarter for which earnings are announced, which is measured as the ratio of income before extraordinary items to lagged total assets.	Compustat

SP1500	An indicator variable that equals to one if the firm is listed on S&P 1500, and zero otherwise.	S&P Dow Jones Indices
IOR	Institutional ownership as a fraction of total shares outstanding at the end of the quarter for which earnings are announced.	Thomson-Reuters Institutional Holdings (13F)
AF	The natural log of one plus the count of the number of analyst followings the firm who make quarterly earnings forecasts.	IBES
Turn_prior	Daily share turnover, measured by the average daily volume divided by shares outstanding, in 30 days to 5 days prior to the earnings announcement [-30,-5].	CRSP
CAR_prior (%)	Cumulative buy-and-hold abnormal returns in 30 days to 5 days prior to the earnings announcement [-30,-5] *100.	CRSP
Stdret_prior	Daily return volatility, calculated by the standard deviation of stock returns in 30 days to 5 days prior to the earnings announcement [-30,-5].	CRSP
Additional Test Variables:		
IOR_high	An indicator variable that equals to one if the institutional ownership as a fraction of total shares outstanding is above the sample median and zero otherwise.	Thomson-Reuters Institutional Holdings (13F)
CAR[0,1] (%)	Cumulative abnormal stock return over the two-day earnings announcement window [0,1] *100, calculated using the market model.	CRSP

APPENDIX B

WallStreetBets, or *WSB*, is a subreddit social media platform where retail investors discuss stock and equity option trading. Appendix B shows the homepage of the *Reddit WallStreetBets* (r/WallStreetBets) forum and examples of *WallStreetBets* user posts on *Clover Health Investments Corp* (CLOV).





APPENDIX C

We collect all user posts on the *Reddit WallStreetBets* (*r/WallStreetBets*) forum from the *Pushshift API*, using a list of all tickers mentioned on the *WallStreetBets* that are followed by a dollar sign (i.e., $TICKER). We manually go through all tickers collected from the *WallStreetBets* and remove tickers with generic meanings which are related to slang phrases, frequently used vocabularies, and unique lingo and terminology of the forum. We deem these tickers as unlikely to be referring to company tickers.[11] We removed the following 112 tickers:

A, AI, ALL, AM, AN, ANY, ARE, ATH, AUTO, BE, BEST, BIG, BOOM, BRO, BUY, BY, CAN, CAT, CBD, CC, CEO, CFO, CO, CPA, CPI, CUT, DD, DEEP, DTE, DUDE, EAT, EDIT, EOD, EPS, EVER, EYES, FAT, FIVE, FOMO, GAIN, GFY, GO, GOOD, HAS, HE, HEAR, HERO, HES, HOLD, HOPE, IPO, IQ, IRS, IS, IT, ITM, JOB, JUST, KNOW, LACK, LINK, LIVE, LOVE, MAN, ME, MEN, MF, MINI, MOON, MR, MUST, NEED, NEW, NEXT, NICE, NOW, OI, OLD, ON, ONE, OUT, PASS, PDT, PM, PT, PUMP, RE, REAL, RISE, RSI, RUN, SEE, SHE, SI, SP, SO, TA, TEAM, TELL, TIL, TRUE, TURN, U, UI, USA, USD, VERY, VPN, WANT, X, YOLO, YOU

[11] For more details of the lingo/slang used in the WSB, see the "Basic Guide to WallStreetBets Culture for Newcomers": https://www.reddit.com/r/WallStreetBets/comments/l7fr21/basic_guide_to_WallStreetBets_culture_for/.

Figure 1. The Plot of Daily Percentage Changes in Retail Investor Coverage Around Quarterly Earnings Announcements

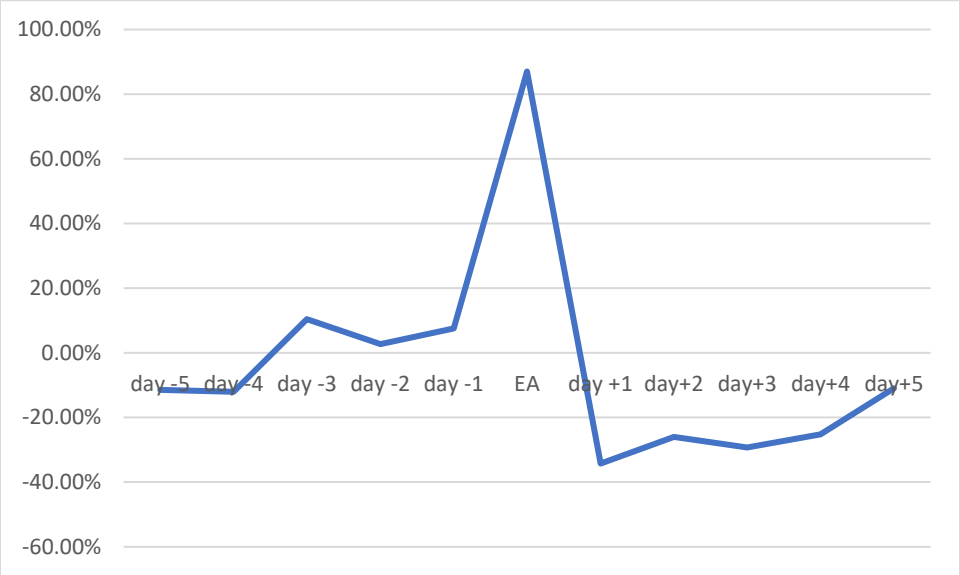


Table 1. Sample Selection

	Total Observations
Sample with quarterly fundamentals data (1/1/2020-4/1/2022)	56,017
Delete: observations with no reported earnings announcement dates from IBES or Compustat	(8,393)
Delete: observations with no available from CRSP	(7,163)
Delete: observations with no available from Thomson-Reuters Institutional Holdings	(4,183)
Delete: observations with no available from IBES	(5,190)
Delete: observations with missing values of control variables	(557)
Final sample:	30,531

Table 2. Sample Distribution

Panel A. Year-Quarter Distribution

Year-Quarter	N	Percentage
202001	3,130	10.25%
202002	3,180	10.42%
202003	3,229	10.58%
202004	3,279	10.74%
202101	3,392	11.11%
202102	3,489	11.43%
202103	3,587	11.75%
202104	3,629	11.89%
202201	3,616	11.84%
Total	30,531	1

Panel B. Industry Distribution

Fama-French industry code (48 industries)	N	Percentage
Agriculture	75	0.25%
Food Products	340	1.11%
Candy & Soda	81	0.27%
Beer & Liquor	41	0.13%
Tobacco Products	27	0.09%
Recreation	158	0.52%
Entertainment	326	1.07%
Printing and Publishing	73	0.24%
Consumer Goods	300	0.98%
Apparel	262	0.86%
Healthcare	388	1.27%
Medical Equipment	1,199	3.93%
Pharmaceutical Products	4,963	16.26%
Chemicals	593	1.94%
Rubber and Plastic Products	95	0.31%
Textiles	53	0.17%
Construction Materials	405	1.33%
Construction	374	1.22%
Steel Works	238	0.78%
Fabricated Products	41	0.13%
Machinery	763	2.50%
Electrical Equipment	347	1.14%
Automobiles and Trucks	449	1.47%
Aircraft	142	0.47%

Shipbuilding, Railroad Equipment	75	0.25%
Defense	53	0.17%
Precious Metals	295	0.97%
Non-Metallic and Industrial Metal Mining	172	0.56%
Coal	63	0.21%
Petroleum and Natural Gas	855	2.80%
Utilities	716	2.35%
Communication	417	1.37%
Personal Services	287	0.94%
Business Services	3,632	11.90%
Computers	508	1.66%
Electronic Equipment	1,197	3.92%
Measuring and Control Equipment	442	1.45%
Business Supplies	181	0.59%
Shipping Containers	72	0.24%
Transportation	905	2.96%
Wholesale	697	2.28%
Retail	1,051	3.44%
Restaurants, Hotels, Motels	420	1.38%
Banking	2,802	9.18%
Insurance	819	2.68%
Real Estate	192	0.63%
Trading	2,361	7.73%
Others	586	1.92%
Total	30,531	100%

Table 3. Descriptive Statistics

Panel A. Summary Statistics

Variable	N	Mean	SD	p25	p50	p75
absCAR[0,1](%)	30,531	6.16	6.36	1.81	4.13	8.21
COV[-30,-5]_raw	30,531	39.63	1,425.82	0.00	0.00	3.00
COV[-30,-5]	30,531	0.85	1.37	0.00	0.00	1.39
WSBstock	30,531	0.41	0.49	0.00	0.00	1.00
MEMEstock	30,531	0.20	0.41	0.00	0.00	0.00
absES	30,531	0.08	0.40	0.00	0.00	0.01
negES	30,531	0.32	0.47	0.00	0.00	1.00
Size	30,531	9,617.42	26,348.32	352.73	1,489.75	5,711.55
MTB	30,531	4.14	8.97	1.14	2.27	4.79
ROA	30,531	-0.02	0.08	-0.03	0.00	0.02
SP1500	30,531	0.41	0.49	0.00	0.00	1.00
IOR	30,531	0.69	0.28	0.51	0.78	0.92
AF	30,531	1.88	0.70	1.39	1.79	2.40
Turn_prior	30,531	12.97	17.64	5.18	7.90	13.05
CAR_prior(%)	30,531	-0.23	15.74	-8.44	-0.42	7.44
Stdret_prior	30,531	0.04	0.02	0.02	0.03	0.04
AbVol[0,1]	30,466	5.07	36.07	-3.14	0.99	7.98
Spread[0,1]	30,531	11.38	6.95	6.41	9.57	14.40

Panel A reports the number (N), mean, standard deviation (SD), the 25th percentile (P25) of the variables, median, and the 75th percentile (75) of all the variables. Variable definitions are presented in Appendix A. All continuous variables are winsorized at 99% and 1%.

Panel B. Differences between the groups of *MEMEstock=1* and *MEMEstock =0*

	MEMEstock=1 ***(N= 6,320)***	***MEMEstock =0*** ***(N= 24,211)***		
Variable	***Mean***	***Mean***	**Difference**	
absCAR[0,1](%)	7.12	5.91	1.21	***
COV[-30,-5]_raw	137.27	14.15	123.12	***
COV[-30,-5]	2.06	0.54	1.51	***
absES	0.11	0.07	0.04	***
negES	0.35	0.32	0.04	***
Size	10,993.90	9,258.11	1,735.79	***
MTB	5.44	3.80	1.64	***
ROA	-0.03	-0.02	-0.01	***
SP1500	0.33	0.43	-0.10	***
IOR	0.65	0.70	-0.05	***
AF	1.98	1.85	0.13	***
Turn_prior	19.86	11.18	8.68	***
CAR_prior(%)	-0.15	-0.25	0.10	
Stdret_prior	0.04	0.03	0.01	***
AbVol[0,1]	10.49	3.66	6.83	***
Spread[0,1]	12.55	11.07	1.48	***

Panel B reports the number (N), mean, and the difference of mean of all the variables between *MEMEstock*=1 and *MEMEstock*=0. Variable definitions are presented in Appendix A. All continuous variables are winsorized at 99% and 1%. Significance at the 1%, 5%, and 10% levels is represented by ***, **, and * respectively.

Panel C. Pearson Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) absCAR[0,1]	1.000														
(2) COV[-30,-5]	0.034*	1.000													
(3) WSBstock	0.027*	0.740*	1.000												
(4) MEMEstock	0.077*	0.447*	0.608*	1.000											
(5) absES	0.096*	-0.008	0.010*	0.039*	1.000										
(6) negES	0.081*	-0.018*	-0.022*	0.032*	0.102*	1.000									
(7) MVE	-0.103*	0.396*	0.249*	0.027*	-0.067*	-0.104*	1.000								
(8) MTB	0.037*	0.113*	0.080*	0.074*	-0.036*	-0.038*	0.157*	1.000							
(9) ROA	-0.123*	0.043*	0.037*	-0.044*	-0.302*	-0.272*	0.168*	-0.015*	1.000						
(10) SP1500	-0.135*	0.128*	0.113*	-0.084*	-0.143*	-0.176*	0.280*	0.016*	0.344*	1.000					
(11) IOR	-0.051*	-0.018*	-0.009	-0.076*	-0.205*	-0.115*	0.088*	0.049*	0.272*	0.412*	1.000				
(12) AF	-0.082*	0.313*	0.265*	0.076*	-0.177*	-0.160*	0.446*	0.160*	0.205*	0.393*	0.406*	1.000			
(13) Turn_prior	0.172*	0.223*	0.170*	0.199*	0.331*	0.098*	-0.073*	0.024*	-0.296*	-0.146*	-0.189*	-0.075*	1.000		
(14) CAR_prior	0.013*	0.013*	0.008	0.003	-0.028*	-0.017*	0.004	0.002	0.034*	0.013*	0.019*	0.014*	0.085*	1.000	
(15) Stdret_prior	0.237*	0.018*	0.019*	0.115*	0.225*	0.162*	-0.212*	-0.003	-0.397*	-0.337*	-0.266*	-0.230*	0.521*	0.147*	1.000

Panel C presents Pearson correlations between the variables included in the main test (H1). Variable definitions are presented in Appendix A. * indicates a significance level of $p<0.10$ (two-tailed).

Table 4. The Effect of the *WallStreetBets* Coverage on Abnormal Stock Returns

	absCAR[0,1]	***absCAR[0,1]***	***absCAR[0,1]***
COV[-30,-5]	0.218***		
	[0.000]		
WSBstock		0.367***	
		[0.000]	
MEMEstock			0.516***
			[0.000]
absES	0.418***	0.405***	0.408***
	[0.002]	[0.003]	[0.003]
negES	0.505***	0.508***	0.500***
	[0.000]	[0.000]	[0.000]
Size	-0.000***	-0.000***	-0.000***
	[0.000]	[0.000]	[0.000]
MTB	0.015***	0.016***	0.015***
	[0.002]	[0.002]	[0.003]
ROA	-0.310	-0.326	-0.342
	[0.687]	[0.673]	[0.657]
SP1500	-0.700***	-0.712***	-0.670***
	[0.000]	[0.000]	[0.000]
IOR	0.306	0.326	0.318
	[0.125]	[0.103]	[0.112]
AF	-0.303***	-0.344***	-0.329***
	[0.000]	[0.000]	[0.000]
Turn_prior	0.013***	0.012***	0.012***
	[0.001]	[0.002]	[0.002]
CAR_prior	-0.004	-0.004	-0.004
	[0.127]	[0.128]	[0.135]
Stdret_prior	47.914***	47.970***	47.748***
	[0.000]	[0.000]	[0.000]
Intercept	6.474***	6.424***	6.415***
	[0.000]	[0.000]	[0.000]
Industry FE	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes
N	30,531	30,531	30,531
R^2	0.1217	0.1221	0.1224

The table reports the effect of the *WallStreetBets* coverage on the absolute value of abnormal stock returns during the two-day earnings announcement window (*absCAR[0,1]*) in H1a. The *WallStreetBets* coverage is measured by three variables: a continuous variable (*COV[-30,-5]*) and two indicator variables (*WSBstock* and *MEMEstock*). The model includes industry fixed effects based on two-digit SIC codes and quarter fixed effects. Standard Errors are clustered at firm level. All continuous variables in the model are winsorized at 99% and 1%. ***, **, and * indicate statistical significance level at the 1%, 5%, and 10% (two-tailed). P-values are presented in brackets below the coefficients. Variable definitions are presented in Appendix A.

Table 5. The Effect of the *WallStreetBets* Coverage on Abnormal Trading Volume

	AbVol[0,1]	***AbVol[0,1]***	***AbVol[0,1]***
COV[-30,-5]	5.620***		
	[0.000]		
WSBstock		9.245***	
		[0.000]	
MEMEstock			9.589***
			[0.000]
absES	6.707***	5.963***	6.025***
	[0.000]	[0.000]	[0.000]
negES	-0.461	-0.182	-0.297
	[0.346]	[0.715]	[0.550]
Size	-0.000***	-0.000***	-0.000***
	[0.000]	[0.000]	[0.000]
MTB	0.039	0.058*	0.048
	[0.193]	[0.064]	[0.125]
ROA	-15.187**	-16.088**	-16.290**
	[0.016]	[0.012]	[0.011]
SP1500	-1.070*	-1.186*	-0.349
	[0.097]	[0.069]	[0.594]
IOR	0.476	-0.874	-1.347
	[0.744]	[0.550]	[0.358]
AF	1.127*	1.948***	2.594***
	[0.053]	[0.001]	[0.000]
Turn_prior	-0.611***	-0.549***	-0.541***
	[0.000]	[0.000]	[0.000]
CAR_prior	-0.114***	-0.118***	-0.117***
	[0.000]	[0.000]	[0.000]
Stdret_prior	-47.093**	-47.536**	-51.738**
	[0.032]	[0.031]	[0.018]
Intercept	9.756**	8.570*	8.636*
	[0.019]	[0.076]	[0.070]
Industry FE	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes
N	30,466	30,466	30,466
R^2	0.1250	0.1068	0.1043

The table reports the effect of the *WallStreetBets* coverage on abnormal trading volume in the two-day earnings announcement window (*AbVol[0,1]*) in H1b. The *WallStreetBets* coverage is measured by three variables: a continuous variable (*COV[-30,-5]*) and two indicator variables (*WSBstock* and *MEMEstock*). The model includes industry fixed effects based on two-digit SIC codes and quarter fixed effects. Standard Errors are clustered at firm level. All continuous variables in the model are winsorized at 99% and 1%. ***, **, and * indicate statistical significance level at the 1%, 5%, and 10% (two-tailed). P-values are presented in brackets below the coefficients. Variable definitions are presented in Appendix A.

Table 6. The Effect of the *WallStreetBets* Coverage on Stock Volatility

	Spread[0,1]	***Spread[0,1]***	***Spread[0,1]***
COV[-30,-5]	0.232***		
	[0.000]		
WSBstock		0.283***	
		[0.002]	
MEMEstock			0.460***
			[0.000]
absES	1.103***	1.074***	1.078***
	[0.000]	[0.000]	[0.000]
negES	0.197**	0.207**	0.200**
	[0.017]	[0.012]	[0.015]
Size	-0.000***	-0.000***	-0.000***
	[0.000]	[0.000]	[0.000]
MTB	0.003	0.004	0.003
	[0.536]	[0.458]	[0.531]
ROA	-10.089***	-10.118***	-10.132***
	[0.000]	[0.000]	[0.000]
SP1500	-0.964***	-0.976***	-0.940***
	[0.000]	[0.000]	[0.000]
IOR	-0.804***	-0.825***	-0.826***
	[0.000]	[0.000]	[0.000]
AF	-0.960***	-0.974***	-0.968***
	[0.000]	[0.000]	[0.000]
Turn_prior	0.022***	0.024***	0.023***
	[0.000]	[0.000]	[0.000]
CAR_prior	-0.014***	-0.014***	-0.014***
	[0.000]	[0.000]	[0.000]
Stdret_prior	80.418***	80.502***	80.307***
	[0.000]	[0.000]	[0.000]
Intercept	12.937***	12.881***	12.869***
	[0.000]	[0.000]	[0.000]
Industry FE	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes
N	30,531	30,531	30,531
R^2	0.3495	0.3490	0.3493

The table reports the effect of the *WallStreetBets* coverage on stock volatility during the two-day earnings announcement window in H2, proxied by bid-ask spread (*Spread[0,1]*) and (2). The *WallStreetBets* coverage is measured by three variables: a continuous variable (*COV[-30,-5]*) and two indicator variables (*WSBstock* and *MEMEstock*). The model includes industry fixed effects based on two-digit SIC codes and quarter fixed effects. Standard Errors are clustered at firm level. All continuous variables in the model are winsorized at 99% and 1%. ***, **, and * indicate statistical significance level at the 1%, 5%, and 10% (two-tailed). P-values are presented in brackets below the coefficients. Variable definitions are presented in Appendix A.

Table 7. Entropy Balancing Approach

Panel A. Entropy Balancing Approach on *WSBstock*

	absCAR[0,1]	***AbVol[0,1]***	***Spread[0,1]***
WSBstock	0.467***	10.450***	0.386***
	[0.000]	[0.000]	[0.000]
absES	0.384**	6.845***	1.061***
	[0.020]	[0.001]	[0.000]
negES	0.545***	-0.010	0.245***
	[0.000]	[0.989]	[0.009]
Size	-0.000***	-0.000***	-0.000***
	[0.001]	[0.000]	[0.000]
MTB	0.012**	0.046	0.004
	[0.012]	[0.114]	[0.319]
ROA	-1.467	-22.607**	-10.036***
	[0.104]	[0.011]	[0.000]
SP1500	-0.882***	-2.353***	-1.090***
	[0.000]	[0.000]	[0.000]
IOR	0.551**	0.988	-0.492**
	[0.012]	[0.569]	[0.013]
AF	-0.315***	2.086***	-1.132***
	[0.000]	[0.000]	[0.000]
Turn_prior	0.002	-0.781***	0.016***
	[0.699]	[0.000]	[0.000]
CAR_prior	-0.008**	-0.143***	-0.015***
	[0.017]	[0.000]	[0.000]
Stdret_prior	48.979***	-54.950*	74.878***
	[0.000]	[0.058]	[0.000]
Intercept	7.184***	11.003**	13.237***
	[0.000]	[0.021]	[0.000]
Industry FE	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes
N	30,531	30,466	30,531
R^2	0.1277	0.2291	0.3768

Panel A reports the results of the entropy balancing approach on the indicator variable of the *WallStreetBets* coverage (*WSBstock*) in H1 and H2 that examine the effects of the *WallStreetBets* coverage on two price responsiveness variables (*absCAR[0,1]* and *AbVol[0,1]*) and a stock volatility variable (*Spread[0,1]*) during the two-day earnings announcement window. The model includes industry fixed effects based on two-digit SIC codes and quarter fixed effects. Standard Errors are clustered at firm level. All continuous variables in the model are winsorized at 99% and 1%. ***, **, and * indicate statistical significance level at the 1%, 5%, and 10% (two-tailed). P-values are presented in brackets below the coefficients. Variable definitions are presented in Appendix A.

Panel B. Entropy Balancing Approach on *MEMEstock*

	absCAR[0,1]	***AbVol[0,1]***	***Spread[0,1]***
MEMEstock	0.586***	11.513***	0.551***
	[0.000]	[0.000]	[0.000]
absES	0.443***	5.733***	1.103***
	[0.006]	[0.005]	[0.000]
negES	0.522***	0.019	0.342***
	[0.000]	[0.985]	[0.002]
Size	-0.000***	-0.000***	-0.000***
	[0.000]	[0.000]	[0.000]
MTB	0.016***	0.093**	0.010**
	[0.004]	[0.017]	[0.037]
ROA	-1.396	-20.879**	-8.173***
	[0.145]	[0.035]	[0.000]
SP1500	-0.917***	-2.576***	-0.943***
	[0.000]	[0.001]	[0.000]
IOR	0.437*	0.406	-0.690***
	[0.059]	[0.844]	[0.002]
AF	-0.335***	0.986	-1.375***
	[0.001]	[0.234]	[0.000]
Turn_prior	0.002	-0.684***	0.017***
	[0.631]	[0.000]	[0.000]
CAR_prior	-0.009**	-0.170***	-0.014***
	[0.016]	[0.000]	[0.000]
Stdret_prior	47.268***	-100.581***	68.981***
	[0.000]	[0.003]	[0.000]
Intercept	7.256***	20.157**	15.349***
	[0.000]	[0.016]	[0.000]
Industry FE	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes
N	30,531	30,466	30,531
R^2	0.1214	0.1953	0.3499

Panel B reports the results of the entropy balancing approach on the indicator variables of the *WallStreetBets* coverage (*MEMEstock*) in H1 and H2 that examine the effects of the *WallStreetBets* coverage on two price responsiveness variables (*absCAR[0,1]* and *AbVol[0,1]*) and a stock volatility variable (*Spread[0,1]*) during the two-day earnings announcement window. The model includes industry fixed effects based on two-digit SIC codes and quarter fixed effects. Standard Errors are clustered at firm level. All continuous variables in the model are winsorized at 99% and 1%. ***, **, and * indicate statistical significance level at the 1%, 5%, and 10% (two-tailed). P-values are presented in brackets below the coefficients. Variable definitions are presented in Appendix A.

Table 8. Cross-Sectional Test: The Incremental Effect of Earnings Surprises on the Relationship Between the *WallStreetBets* Coverage and Abnormal Stock Returns

	absCAR[0,1]	***absCAR[0,1]***	***absCAR[0,1]***
COV[-30,-5]	0.199***		
	[0.000]		
WSBstock		0.307***	
		[0.000]	
MEMEstock			0.445***
			[0.000]
COV[-30,-5]*absES	0.004		
	[0.969]		
WSBstock*absES		0.497**	
		[0.039]	
MEMEstock*absES			0.546**
			[0.041]
absES	1.052**	0.790*	0.860**
	[0.023]	[0.057]	[0.041]
negES	0.457***	0.507***	0.499***
	[0.000]	[0.000]	[0.000]
Size	-0.000***	-0.000***	-0.000***
	[0.000]	[0.000]	[0.000]
MTB	0.015***	0.016***	0.015***
	[0.003]	[0.002]	[0.003]
ROA	-0.777	-0.188	-0.190
	[0.353]	[0.807]	[0.805]
SP1500	-0.657***	-0.675***	-0.639***
	[0.000]	[0.000]	[0.000]
IOR	0.235	0.166	0.164
	[0.237]	[0.402]	[0.408]
AF	-0.348***	-0.316***	-0.305***
	[0.000]	[0.000]	[0.000]
Turn_prior	0.014***	0.017***	0.017***
	[0.001]	[0.000]	[0.000]
CAR_prior	-0.004	-0.004	-0.004
	[0.136]	[0.115]	[0.114]
Stdret_prior	47.154***	47.394***	47.188***
	[0.000]	[0.000]	[0.000]
Intercept	6.469***	6.422***	6.412***
	[0.000]	[0.000]	[0.000]
*CVs*absES*	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes
N	30,531	30,531	30,531
R^2	0.1250	0.1247	0.1248

The table reports the incremental effect of the magnitude of earnings surprises (abs*ES*) on the relationship between the *WallStreetBets* coverage and the magnitude of abnormal stock returns during the two-day earnings announcement window (abs*CAR[0,1]*). The *WallStreetBets* coverage is measured by three variables: a continuous variable (*COV[-30,-5]*) and two indicator variables (*WSBstock* and *MEMEstock*). The model includes interactive terms *X*absFE*, industry fixed effects based on two-digit SIC codes, and quarter fixed effects. Standard Errors are clustered at firm level. All continuous variables in the model are winsorized at 99% and 1%. ***, **, and * indicate statistical significance level at the 1%, 5%, and 10% (two-tailed). P-values are presented in brackets below the coefficients. Variable definitions are presented in Appendix A.

Table 9. Cross-Sectional Test: The Incremental Effect of Size on the Relationship Between the *WallStreetBets* Coverage and Price Responsiveness

Panel A. The incremental effect of size on the relationship between the *WallStreetBets* coverage and abnormal stock returns

	absCAR[0,1]	***absCAR[0,1]***	***absCAR[0,1]***
COV[-30,-5]	0.180***		
	[0.000]		
WSBstock		0.272***	
		[0.003]	
MEMEstock			0.560***
			[0.000]
COV[-30,-5]*Size	-0.000***		
	[0.002]		
WSBstock*Size		-0.000***	
		[0.001]	
MEMEstock*Size			-0.000*
			[0.063]
Size	-0.000***	-0.000***	-0.000***
	[0.000]	[0.000]	[0.000]
absES	0.435***	0.409***	0.408***
	[0.002]	[0.003]	[0.003]
negES	0.495***	0.506***	0.501***
	[0.000]	[0.000]	[0.000]
MTB	0.015***	0.016***	0.015***
	[0.002]	[0.001]	[0.002]
ROA	-0.252	-0.302	-0.334
	[0.743]	[0.696]	[0.665]
SP1500	-0.691***	-0.696***	-0.674***
	[0.000]	[0.000]	[0.000]
IOR	0.369*	0.324	0.324
	[0.065]	[0.105]	[0.105]
AF	-0.340***	-0.313***	-0.329***
	[0.000]	[0.000]	[0.000]
Turn_prior	0.010***	0.012***	0.012***
	[0.008]	[0.001]	[0.002]
CAR_prior	-0.004	-0.004	-0.004
	[0.150]	[0.130]	[0.135]
Stdret_prior	47.577***	47.640***	47.776***
	[0.000]	[0.000]	[0.000]
Intercept	6.483***	6.458***	6.404***
	[0.000]	[0.000]	[0.000]
N	30,531	30,531	30,531
R^2	0.1232	0.1224	0.1224

Panel B. The incremental effect of size on the relationship between the *WallStreetBets* coverage and abnormal trading volume

	AbVol[0,1]	***AbVol[0,1]***	***AbVol[0,1]***
COV[-30,-5]	6.168***		
	[0.000]		
WSBstock		9.769***	
		[0.000]	
MEMEstock			10.173***
			[0.000]
COV[-30,-5]*Size	-0.000***		
	[0.000]		
WSBstock*Size		-0.000***	
		[0.000]	
MEMEstock*Size			-0.000**
			[0.028]
Size	-0.000***	0.000	-0.000***
	[0.000]	[0.312]	[0.000]
absES	6.689***	5.942***	6.016***
	[0.000]	[0.000]	[0.000]
negES	-0.434	-0.175	-0.284
	[0.376]	[0.726]	[0.568]
MTB	0.036	0.056*	0.053*
	[0.237]	[0.074]	[0.090]
ROA	-15.738**	-16.222**	-16.182**
	[0.013]	[0.011]	[0.012]
SP1500	-1.306**	-1.273*	-0.403
	[0.044]	[0.051]	[0.537]
IOR	0.593	-0.864	-1.264
	[0.684]	[0.554]	[0.388]
AF	0.627	1.782***	2.587***
	[0.292]	[0.003]	[0.000]
Turn_prior	-0.619***	-0.551***	-0.542***
	[0.000]	[0.000]	[0.000]
CAR_prior	-0.116***	-0.118***	-0.117***
	[0.000]	[0.000]	[0.000]
Stdret_prior	-41.084*	-45.730**	-51.376**
	[0.062]	[0.038]	[0.019]
Intercept	9.582**	8.382*	8.482*
	[0.018]	[0.082]	[0.072]
Industry FE	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes
N	30,466	30,466	30,466
R^2	0.1269	0.1072	0.1046

The table examines incremental effect of size (*Size*: market capitalization) on the relationship between the *WallStreetBets* coverage and two price responsiveness variables during the two-day earnings announcement window (*absCAR[0,1]* and *AbVol[0,1]*). The *WallStreetBets* coverage is measured by three variables: a continuous variable (*COV[-30,-5]*) and two indicator variables (*WSBstock* and *MEMEstock*). The model includes industry fixed effects based on two-digit SIC codes and quarter fixed effects. Standard Errors are clustered at firm level. All continuous variables in the model are winsorized at 99% and 1%. ***, **, and * indicate statistical significance level at the 1%, 5%, and 10% (two-tailed). P-values are presented in brackets below the coefficients. Variable definitions are presented in Appendix A.

Table 10. Cross-Sectional Test: The Incremental Effect of Analysts Following on the Relationship Between the *WallStreetBets* Coverage and Price Responsiveness

Panel A. The incremental effect of analyst followings on the relationship between the *WallStreetBets* coverage and abnormal stock returns

	absCAR[0,1]	***absCAR[0,1]***	***absCAR[0,1]***
COV[-30,-5]	0.350***		
	[0.002]		
WSBstock		0.659***	
		[0.009]	
MEMEstock			0.984***
			[0.002]
COV[-30,-5]*AF	-0.061***		
	[0.020]		
WSBstock*AF		-0.154***	
		[0.019]	
MEMEstock*AF			-0.238***
			[0.013]
AF	-0.329***	-0.278***	-0.280***
	[0.000]	[0.003]	[0.001]
absES	0.433***	0.403***	0.406***
	[0.002]	[0.003]	[0.003]
negES	0.497***	0.507***	0.500***
	[0.000]	[0.000]	[0.000]
Size	-0.000***	-0.000***	-0.000***
	[0.000]	[0.000]	[0.000]
MTB	0.015***	0.016***	0.015***
	[0.002]	[0.002]	[0.002]
ROA	-0.289	-0.317	-0.332
	[0.707]	[0.681]	[0.666]
SP1500	-0.711***	-0.714***	-0.677***
	[0.000]	[0.000]	[0.000]
IOR	0.370*	0.319	0.329*
	[0.065]	[0.112]	[0.100]
Turn_prior	0.009**	0.012***	0.011***
	[0.015]	[0.002]	[0.002]
CAR_prior	-0.004	-0.004	-0.004
	[0.138]	[0.130]	[0.137]
Stdret_prior	48.015***	47.919***	47.691***
	[0.000]	[0.000]	[0.000]
Intercept	6.376***	6.305***	6.329***
	[0.000]	[0.000]	[0.000]
N	30,531	30,531	30,531
R^2	0.1230	0.1221	0.1225

Panel B. The incremental effect of analyst followings on the relationship between the *WallStreetBets* coverage and abnormal trading volume

	AbVol[0,1]	***AbVol[0,1]***	***AbVol[0,1]***
COV[-30,-5]	11.697***		
	[0.000]		
WSBstock		18.244***	
		[0.000]	
MEMEstock			22.338***
			[0.000]
COV[-30,-5]*AF	-2.808***		
	[0.000]		
WSBstock*AF		-4.743***	
		[0.000]	
MEMEstock*AF			-6.502***
			[0.000]
AF	3.223***	3.965***	3.926***
	[0.000]	[0.000]	[0.000]
absES	6.678***	5.910***	5.961***
	[0.000]	[0.000]	[0.000]
negES	-0.436	-0.196	-0.295
	[0.372]	[0.694]	[0.553]
Size	-0.000***	-0.000***	-0.000***
	[0.000]	[0.000]	[0.000]
MTB	0.046	0.062**	0.062**
	[0.128]	[0.045]	[0.046]
ROA	-15.181**	-15.826**	-16.024**
	[0.015]	[0.013]	[0.012]
SP1500	-1.252*	-1.243*	-0.545
	[0.055]	[0.058]	[0.405]
IOR	0.124	-1.098	-1.036
	[0.931]	[0.450]	[0.481]
Turn_prior	-0.627***	-0.553***	-0.550***
	[0.000]	[0.000]	[0.000]
CAR_prior	-0.116***	-0.117***	-0.117***
	[0.000]	[0.000]	[0.000]
Stdret_prior	-46.010**	-49.144**	-53.311**
	[0.037]	[0.026]	[0.015]
Intercept	5.432	4.890	6.271
	[0.135]	[0.300]	[0.154]
Industry FE	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes
N	30,466	30,466	30,466
R^2	0.1301	0.1086	0.1069

The table examines the incremental effect of analyst followings (*AF*) on the relationship between the *WallStreetBets* coverage and two price responsiveness variables during the two-day earnings announcement window (*absCAR[0,1]* and *AbVol[0,1]*). The *WallStreetBets* coverage is measured by three variables: a continuous variable (*COV[-30,-5]*) and two indicator variables (*WSBstock* and *MEMEstock*). The model includes industry fixed effects based on two-digit SIC codes and quarter fixed effects. Standard Errors are clustered at firm level. All continuous variables in the model are winsorized at 99% and 1%. ***, **, and * indicate statistical significance level at the 1%, 5%, and 10% (two-tailed). P-values are presented in brackets below the coefficients. Variable definitions are presented in Appendix A.

Table 11. Cross-Sectional Test: The Incremental Effect of Institutional Ownership on the Relationship Between the *WallStreetBets* Coverage and Price Responsiveness

Panel A. The incremental effect of institutional ownership on the relationship between the *WallStreetBets* coverage and abnormal stock returns

	absCAR[0,1]	***absCAR[0,1]***	***absCAR[0,1]***
COV[-30,-5]	0.291***		
	[0.000]		
WSBstock		0.560***	
		[0.000]	
MEMEstock			0.677***
			[0.000]
COV[-30,-5]*IOR_high	-0.191***		
	[0.002]		
WSBstock*IOR_high		-0.411***	
		[0.009]	
MEMEstock*IOR_high			-0.365*
			[0.084]
IOR_high	-0.070	-0.100	-0.208**
	[0.527]	[0.390]	[0.046]
absES	0.413***	0.381***	0.386***
	[0.003]	[0.005]	[0.005]
negES	0.494***	0.504***	0.501***
	[0.000]	[0.000]	[0.000]
Size	-0.000***	-0.000***	-0.000***
	[0.000]	[0.000]	[0.000]
MTB	0.015***	0.016***	0.015***
	[0.002]	[0.001]	[0.002]
ROA	-0.070	-0.087	-0.104
	[0.927]	[0.909]	[0.892]
SP1500	-0.602***	-0.603***	-0.557***
	[0.000]	[0.000]	[0.000]
AF	-0.278***	-0.250***	-0.233***
	[0.000]	[0.002]	[0.004]
Turn_prior	0.009**	0.011***	0.011***
	[0.022]	[0.003]	[0.003]
CAR_prior	-0.004	-0.004	-0.004
	[0.163]	[0.152]	[0.160]
Stdret_prior	47.209***	47.112***	46.840***
	[0.000]	[0.000]	[0.000]
Intercept	6.707***	6.630***	6.689***
	[0.000]	[0.000]	[0.000]
N	30,531	30,531	30,531
R^2	0.1234	0.1225	0.1227

Panel B. The incremental effect of institutional ownership on the relationship between the *WallStreetBets* coverage and abnormal trading volume

	AbVol[0,1]	***AbVol[0,1]***	***AbVol[0,1]***
COV[-30,-5]	6.850***		
	[0.000]		
WSBstock		12.663***	
		[0.000]	
MEMEstock			12.773***
			[0.000]
COV[-30,-5]*IOR_high	-2.701***		
	[0.000]		
WSBstock*IOR_high		-6.605***	
		[0.000]	
MEMEstock*IOR_high			-6.674***
			[0.000]
IOR_high	2.495***	1.896***	0.208
	[0.000]	[0.001]	[0.722]
absES	6.764***	5.970***	6.064***
	[0.000]	[0.000]	[0.000]
negES	-0.528	-0.263	-0.322
	[0.283]	[0.598]	[0.518]
Size	-0.000***	-0.000***	-0.000***
	[0.000]	[0.000]	[0.000]
MTB	0.037	0.059*	0.050
	[0.216]	[0.056]	[0.109]
ROA	-14.945**	-15.672**	-15.906**
	[0.019]	[0.015]	[0.013]
SP1500	-1.160*	-1.209*	-0.327
	[0.058]	[0.050]	[0.596]
AF	1.156**	1.976***	2.670***
	[0.037]	[0.001]	[0.000]
Turn_prior	-0.622***	-0.556***	-0.546***
	[0.000]	[0.000]	[0.000]
CAR_prior	-0.114***	-0.118***	-0.117***
	[0.000]	[0.000]	[0.000]
Stdret_prior	-47.055**	-49.018**	-54.146**
	[0.035]	[0.027]	[0.014]
Intercept	8.498**	6.335	7.172
	[0.025]	[0.165]	[0.105]
Industry FE	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes
N	30,466	30,466	30,466
R^2	0.1275	0.1089	0.1058

The table examines the incremental effect of institutional ownership on the relationship between the *WallStreetBets* coverage and two price responsiveness variables during the two-day earnings announcement window (*absCAR[0,1]* and *AbVol[0,1]*). The *WallStreetBets* coverage is measured by three variables: a continuous variable (*COV[-30,-5]*) and two indicator variables (*WSBstock* and *MEMEstock*). *IOR_high* is an indicator variable equal to one if a firm's institutional ownership is higher than the sample median. The model includes industry fixed effects based on two-digit SIC codes and quarter fixed effects. Standard Errors are clustered at firm level. All continuous variables in the model are winsorized at 99% and 1%. ***, **, and * indicate statistical significance level at the 1%, 5%, and 10% (two-tailed). P-values are presented in brackets below the coefficients. Variable definitions are presented in Appendix A.