

From Trading to Voting: Small Shareholders on Digital Platforms

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Abstract: The rapid rise of digital trading platforms has transformed retail investor participation in financial markets, yet little is known about their participation in proxy voting and corporate governance. This paper examines the voting behavior of platform-based retail investors and how digital platforms influence their voting along two dimensions: (1) the introduction of a digital voting platform that lowers access barriers and (2) firms' use of information platforms that enhance communication with investors. Exploiting Robinhood's 2021 acquisition of the Say voting platform as an exogenous shock to access, I find that retail shareholders increase their participation in proxy voting. They are more likely to support management-related proposals and show no evidence of punishing poorly performing firms. Their votes appear less informed, as indicated by lower subsequent stock returns and higher volatility. Moreover, retail shareholders are more likely to vote in favor of proposals and align with management recommendations when firms engage with them through information platforms. Overall, digital platforms may serve as effective tools for mobilizing emerging retail investors in proxy voting.

Keywords: Digital Platforms, Retail Investors, Proxy Voting

JEL classifications: D72, G14, G23, M41, O33

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1. Introduction

Over the past decade, the rise of digital fintech platforms, such as zero-commission trading apps, has significantly changed the landscape of the capital market, especially regarding retail trading. Despite a growing body of research on the trading behavior of platform-based investors and their impact on financial markets (e.g., Barber, et al., 2022, Eaton, et al., 2022, Welch, 2022), little is known about their participation in proxy voting and corporate governance. Existing literature mainly focuses on institutional investors and highlights their active and influential role in corporate decisions (Ertimur, et al., 2010, Ertimur, et al., 2013, Gillan and Starks, 2000, McCahery, et al., 2016). Given that small investors usually face an information disadvantage and have fewer incentives to vote, they are less likely to vote and tend to vote differently (Brav, et al., 2022, Cassell, et al., 2024, Lee and Souther, 2020). According to Broadridge (2024), retail shareholders vote only 30% of their shares, compared with participation rates of at least 80% among institutional investors.

As shown in the case of the GameStop short squeeze, although each individual investor is small, their collective power can have a significant impact. By exercising their shareholder rights, they could also shape voting outcomes (Goldfarb, 2024). For example, on April 3, 2024, Disney decisively defeated a proxy contest led by Nelson Peltz's Trian Fund, supported by Blackwells, retaining all 12 board seats. Disney invested up to \$40 million in digital outreach, developed education tools such as a dedicated website and an animated video, and ran advertisements to guide retail shareholders through the voting process. By winning roughly 75% of retail shareholder votes in support of the board, CEO Bob Iger and Disney prevailed in the proxy fight, highlighting the critical influence of retail investors (Stakeholder Labs, 2024, Whelan and Thomas, 2024).

However, there are two primary barriers to retail investor participation in proxy voting. The first is an access barrier. Many retail investors have limited familiarity with the proxy voting process, which often requires obtaining a control number from their brokers, making phone calls, or mailing in a proxy card. Even when online voting is available, investors must typically navigate to a separate website operated by a proxy service provider, requiring additional time and effort in the voting process (Brav, et al., 2022). The second barrier is the cost of information. Many retail investors have even less understanding of how to vote and participating in a U.S. annual or special meeting can be complicated. Making informed decisions requires substantial time and effort, and often demands a level of information that is not always easily accessible (Dore, 2021, Kastiel and Nili, 2016). According to rational choice theory, it can be rational for investors to remain uninformed and avoid voting at all.

As retail ownership continues to grow, regulators, financial service providers, and firms have increasingly emphasized the importance of retail shareholder participation (Caruso, 2024, Fireman, 2022, SEC, 2018a, SEC, 2018b, SEC, 2021). In 2018, the Securities and Exchange Commission (SEC) conducted a roundtable on the proxy process to address the issue of retail shareholder participation. The roundtable focused in particular on whether increased use of technology and better communication could help boost participation (SEC, 2018a, SEC, 2018b). This paper examines the voting behavior of retail investors, particularly small shareholders on trading platforms, and how digital platforms influence their voting in two ways: (1) a voting platform that facilitates shareholder participation in proxy voting, and (2) information platforms that enable more effective communication between firms and their broader investor base.

To answer my research question, I focus on Robinhood users and examine the context of Robinhood's acquisition of Say Technologies and firms' use of information platforms. Digital and

fintech platforms have transformed retail investor participation by lowering barriers to entry, improving accessibility, efficiency, and transparency, and providing tools once primarily available to institutional investors (He, et al., 2025). Online and mobile trading applications have democratized access to securities trading and financial information (Chang and Zhao, 2024, Havakhor, et al., 2025), while information platforms enhance communication and engagement, lowering processing cost for individual investors (Blankespoor, et al., 2014, Blankespoor, et al., 2020, Lee and Zhong, 2022). However, information platforms can spread misinformation, encouraging herd behavior and market instability (Campbell, et al., 2023, Hsieh, et al., 2020, Lyócsa, et al., 2022), and the ease of access to trading apps may lead to speculative and impulsive trading, often resulting in substantial losses for unsophisticated investors (Barber, et al., 2022).

Robinhood is among the most popular trading platforms for small investors, with a user base that is mostly young, male, and new to investing (Robinhood, 2024, Tenev, 2021). Compared with general retail investors, they are more likely to be novice and inexperienced (Eaton, et al., 2022), and attention-induced investors (Barber, et al., 2022, Michels, 2025). Unlike general retail investors, whose trading often predicts positive returns and supports market liquidity (Barrot, et al., 2016, Kaniel, et al., 2012, Kelley and Tetlock, 2013), Robinhood users show no evidence of informed trading (Michels, 2025), and their ownership changes reflect herding-oriented, liquidity-demanding behavior (Eaton, et al., 2022). They also tend to trade based on familiarity and emotional attachment, investing in firms tied to personal engagement with products or out of strong support for the firms (Gendron, et al., 2025).

For the first aspect, I focus on the introduction of the Say digital voting platform. On August 10, 2021, Robinhood acquired Say Technologies, a proxy voting tool, entering the realm of proxy voting (Berke, et al., 2021, Solberg, 2021). Unlike traditional voting systems, the Say

voting platform is directly integrated with users' brokerage accounts, enabling Robinhood investors to vote by simply clicking a link and lowering access barriers. According to a survey, the vast majority of investors (75%) said they would be more likely to participate in proxy voting if the process were available through a mobile app (Broadridge, 2021). Based on a cost-benefit framework, I expect retail shareholders, particularly Robinhood users, to be more likely to vote when voting costs are reduced through improved access provided by the introduction of Say Technologies.

While it may seem clear that new technological tools could eliminate access barriers and improve participation, the extent of the influence on retail voting may remain limited. First, improved access alone does not necessarily generate additional interest, as retail investor apathy remains significant despite advances such as online voting, shareholder activism, and regulatory reforms (Kastiel and Nili, 2016). Evidence from political voting shows that internet voting does not meaningfully increase turnout, since those who vote online are typically individuals who would have voted through traditional means (Germann and Serdült, 2017). More importantly, information barriers remain high. Making informed decisions requires substantial time and effort, and the necessary information is not always easily accessible. From a rational choice perspective, for resource-constrained retail investors, it may be economically rational to remain uninformed and not vote at all (Kastiel and Nili, 2016).

To empirically test this, I apply a difference-in-differences approach, comparing the voting behavior of firms with more Robinhood users to those with fewer users, before and after the introduction of the Say voting platform. The main dependent variable is the percentage of shares voted out of all shares outstanding. I also examine the percentage of shares voted in each direction, whether the vote aligned with management or proxy advisors, and the final voting outcomes. I

define the post-treatment period as the one-year span beginning in the quarter of the Say acquisition (July 2021 to June 2022) and the pre-treatment period as the year prior (July 2020 to June 2021). I define the treatment group as firms with a high number of Robinhood users, as these firms are more likely to be affected by improved access to proxy voting. Robinhood ownership data are obtained from the Robintrack API, which tracks the number of Robinhood app users holding each stock over time. While prior literature often infers retail ownership indirectly as one minus institutional ownership (Cassell, et al., 2024, Jung, et al., 2018), the Robintrack data allow for direct observation of retail investor activity on Robinhood, capturing the behavior of a homogeneous user group likely affected by the Say acquisition. The treatment group covers nearly all meme stocks identified in prior studies (Ahadzie, et al., 2025, Gianstefani, et al., 2025, XU, et al., 2025) and listed on a meme stock ranking website (Quiver, 2025), suggesting that it effectively captures the firms most relevant to retail investors.

The average (median) number of Robinhood users holding a stock in the treatment group is 16,311 (4,243), compared to only 395 (239) in the control group. Firms with high Robinhood users tend to be larger and older, with slightly greater institutional ownership and more financial analysts followed. These firms also exhibit lower levels of shareholder participation. On average, 73.41 percent of shares outstanding are voted in the treatment group, compared to 78.15 percent in the control group. In addition, firms in the treatment group receive less support for proposals: on average, 67.00 percent of shares are voted in favor and 5.94 percent against, compared to 73.50 percent in favor and 4.37 percent against in the control group.

Based on the difference-in-differences analysis, I find that firms with a higher number of Robinhood users experience larger increases in proxy voting participation following the introduction of the Say Technologies platform, suggesting that some retail investors are more

likely to vote when the process is easier. Specifically, the percentage of shares voted increased by 0.604 percentage points (p -value < 0.05) relative to other firms. According to previous studies, Robinhood users represent around 0.15% of the U.S. stock market (van der Beck and Jaunin, 2023) or approximately 2% to 5% (Welch, 2022), depending on the measurement of the total market. While the magnitude is modest, the effect may still be economically relevant given the relatively small ownership stakes of Robinhood users. The results remain consistent across robustness checks, including the exclusion of meme stocks, the addition of further controls, the use of alternative measurements, and the extension of the time period.

The time-trend analysis shows no significant differential trend in the pre-treatment period and an upward trend in the post-treatment period. When I redefine the treatment group based on general retail ownership (i.e., one minus institutional ownership), the post-treatment effect is weak and even negative. This suggests that retail investors, on average, are less likely to vote, and that shareholder participation decreases as retail ownership increases. This pattern is consistent with Aggarwal, et al. (2025), who document lower voting participation following the growth of retail ownership and online trading platforms during the COVID-19 period. Overall, evidence from a subset of new-era retail investors on trading platforms who gained easier access to the voting process suggests that they are more likely to participate when access barriers are reduced.

Moreover, retail investors in the treatment group are more likely to vote in favor of management-related and management-sponsored proposals. This pattern is consistent with the traditional view that retail shareholders tend to support management (Brav, et al., 2022, Lee and Souther, 2020). Recent studies also suggest that retail investors take firm performance into account when casting votes (Brav, et al., 2022, Cassell, et al., 2024). However, I find no evidence that they punish the management of poorly performing firms with negative past stock returns. One possible

explanation is that Robinhood users often invest in consumer-oriented tech stocks with which they are familiar (Welch, 2022), and that investors in those stocks often exhibit emotional attachment to and strong support for the companies (Gendron, et al., 2025).

I then examine stock returns and volatility around shareholder meeting dates. The evidence shows that firms with higher Robinhood users experience lower stock returns and higher volatility in the post-treatment period. Specifically, they underperform by about 1.155% over the [0,5] window (p -value < 0.05) and 2.365% over the [0,21] window (p -value < 0.01). Volatility increases by 0.481% in the first two trading days (p -value < 0.01) and persists for one month. Overall, the results suggest that shareholder votes become less informed when retail shareholders participate more actively through the voting platform.

For the second aspect regarding the information barriers, I then examine firms' use of digital information platforms. Investor relations professionals emphasize the importance of using digital platforms such as social media to improve accessibility and visibility of information, thereby encouraging shareholder engagement (Dore, 2021, Fireman, 2022). Empirical evidence shows that the adoption of E-proxy legislation, which allows firms to disseminate proxy materials electronically, is associated with higher retail investor attention and greater participation during high-salience activism. Moreover, when management makes greater efforts to distribute a complete set of proxy materials, retail voter turnout rises and voting outcomes are more likely to align with management's recommendations Lee and Souther (2020).

To test the role of information platforms, I focus on Twitter (now X) and the Say Q&A platform. Twitter, with its unique features, allows firms to share short messages with investors in a timely and broad manner, and it has become the investor relations departments' technology of choice for disseminating firm news (Blankespoor, et al., 2014). In addition to its voting platform,

Say Technologies also provides a Q&A platform that enables retail investors to submit and upvote questions that will be addressed by company executives during events such as earnings calls and annual meetings, which facilitates more direct and timely communication with retail shareholders. I hypothesize that firms' communication with retail investors through information platforms such as Twitter and Say's Q&A may enhance participation and increase support for management in shareholder votes.

Prior theoretical research indicates that widely disseminating public information could reduce informed traders' information advantage, thereby lowering information asymmetry and improving market liquidity (Diamond and Verrecchia, 1991). Empirical studies also suggest that firms' use of social media platforms reduces retail investor awareness costs (Blankespoor, et al., 2014, Blankespoor, et al., 2020, Lee, et al., 2015) and increases retail interest and trading activity (Campbell, et al., 2023, Choi, et al., 2024, Farrell, et al., 2022). On the other hand, some studies highlight the potential for the strategic use of social media by firms. For example, Jung, et al. (2018) show that firms can selectively withhold bad news on social media. Boulland, et al. (2025) find that small-cap firms use social media opportunistically when announcing positive earnings news. Furthermore, Campbell, et al. (2023) further document that excessive tweeting coincides with lower market liquidity and slower price formation, indicating potential harm to markets.

I collect data on firms' tweets and Q&A records. I then classify the tweets into several broad categories using the ChatGPT API. On average, firms make frequent use of Twitter, with nearly half of meetings (46%) preceded by at least one tweet. However, only a very small share of meetings is preceded by a voting-related tweet (0.2%), and just a few firms participate in the Say Q&A platform, with 0.1% responding to at least one question before meetings. Firms that use information platforms tend to be younger, have smaller market capitalizations, and attract a

significantly higher number of Robinhood users holding their stock. Those firms typically experience lower shareholder participation, with only 59.97 percent of shares voted on average, compared to 76.43 percent for other firms. They also face nearly double the opposition to their proposals, with 9.71 percent of votes cast against them compared to 4.81 percent for other firms.

Regression results show that for firms with high Robinhood users, the use of information platforms does not increase turnout but is associated with greater support. These firms receive significantly more votes in favor of proposals, with higher alignment with management and ISS recommendations. By contrast, information platform use without high Robinhood users is associated with lower support, consistent with the descriptive evidence that firms disseminating voting-related information are often those under pressure and seeking additional backing in proxy contests. Further analysis of other types of tweets shows that financial- and business-related tweets have no effect, whereas AI- and routine-related tweets are associated with stronger support among retail-heavy firms, consistent with the view that these investors are tech-savvy and tend to back familiar firms (Welch, 2022). Overall, digital platforms appear to be effective tools for firms to mobilize retail investors and reinforce shareholder support.

This paper first contributes broadly to the literature on proxy voting. Prior research on proxy voting largely centers on institutional investors (Ertimur, et al., 2010, Ertimur, et al., 2013, Gillan and Starks, 2000, McCahery, et al., 2016), while studies of retail investors have primarily examined their trading activities (Barber, et al., 2022, Eaton, et al., 2022, Michels, 2025, Welch, 2022). Only a limited number of studies have explored retail investors' voting behavior (Brav, et al., 2022, Cassell, et al., 2024, Lee and Souther, 2020). This paper adds to the literature by documenting the voting participation and behavior of contemporary and growing retail investors (i.e., Robinhood users) and showing that they are more likely to vote and to support management

when given easier access to the proxy voting process. However, their votes appear less informed, as indicated by lower stock returns and higher volatility.

Second, this paper contributes to the literature on retail investors and digital platforms. Digital and fintech platforms have transformed retail investor participation by lowering entry barriers, improving accessibility and transparency, and offering tools (He, et al., 2025). Previous papers show retail investors are usually informed through information platforms and firms use those platforms to broaden retail investor awareness and engagement (Blankespoor, et al., 2014, Campbell, et al., 2023, Choi, et al., 2024, Crowley, et al., 2024, Jung, et al., 2018). This paper extends this literature by showing that digital platforms mobilize retail shareholders in the proxy voting process and that firms use information platforms to communicate with retail investors and gain their support in voting. More broadly, while the empirical analysis only centers on Robinhood users, the findings reflect larger trends in the behavior of a new generation of platform-based retail investors. These investors actively participate in capital markets, and their collective behavior has implications that extend beyond trading. As their presence and influence in the market continue to expand, it is crucial to understand their behavior in proxy voting.

2. Institutional Background

For the last several years, the dramatic growth of retail investors has been facilitated mainly by the rise of zero-commission platforms. Robinhood is one of the most widely used trading platforms in the United States.¹ Despite managing fewer total assets than established brokerage firms like Fidelity and Charles Schwab, Robinhood has become the most popular stock trading

¹ Robinhood rose to prominence during the GameStop short squeeze of 2021. Known as one of the favorite platforms for everyday traders, it attracts users with its user-friendly design, commission-free trading, and expansion into features such as cryptocurrency trading. Although some investors abandoned the platform that year after it restricted trading in certain stocks, it has maintained a strong user base and continues to draw new and aspiring investors.

app in terms of user count (Curry, 2025). By the end of 2021, Robinhood reached 22.7 million net funded accounts (Robinhood, 2022). Its user base is mostly young, male, and new to investing. According to Robinhood's CEO, half of its users identify as first-time investors (Tenev, 2021). Approximately 50% of users are Millennials, 25% are from Generation Z, and 20% are from Generation X.² About 60% of users are male and 40% are female, and around 45% (55%) of users report annual incomes over (under) \$100K (Robinhood, 2024).

Following the rapid increase in Robinhood users, emerging research examines their trading behavior and impact on capital markets. Prior studies suggest that the new era retail investors distinguish from earlier retail investors in the 1990s, who tended to be wealthier and more experienced (Barber and Odean, 2002), and from broader measures of retail investors (Eaton, et al., 2022). They are more likely to be novice and unsophisticated (Eaton, et al., 2022), and attention-induced investors (Barber, et al., 2022, Michels, 2025). They trade on both top gainers and top losers, whereas other retail investors show much more trading activity among top gainers (Barber, et al., 2022). Similarly, Michels (2025) finds no evidence of informed trading among Robinhood users and observes increased buying following both extreme positive and negative earnings announcements. While the buying activity of general retail investors tends to predict positive future returns and is often associated with liquidity provision in financial markets (Barrot, et al., 2016, Kaniel, et al., 2012, Kelley and Tetlock, 2013), Robinhood ownership changes are not positively associated with future returns and instead reflect more herding-oriented and liquidity-demanding behavior (Eaton, et al., 2022). Nevertheless, one paper indicates that a Robinhood

² Generation X between 1965 and 1980; Millennials are born between 1981 and 1996; and Generation Z between 1997 and 2012.

portfolio shows both good timing and positive alpha from mid-2018 to mid-2020, suggesting the wisdom of Robinhood crowd (Welch, 2022).

Robinhood users also show a strong tendency to trade based on familiarity and emotional attachment. Asset pricing theory (Merton, 1987) suggests that investors often construct portfolios concentrated in securities they recognize, and Huberman (2001) suggests that investors prefer to trade in firms with which they are familiar, noting that “familiarity breeds investment.” More recently, Welch (2022) finds that, compared to investors on other trading platforms, Robinhood users underinvest in S&P 500 stocks and instead heavily favor large, consumer-oriented technology firms, particularly those that are familiar and appealing to younger, tech-savvy individuals. Their investment choices often reflect long-term personal engagement with products such as video games, streaming services, and smartphones, or a sense of support toward those firms (Gendron, et al., 2025).

With the stated goal of ensuring equal access to and participation in financial markets, Robinhood entered the realm of proxy voting by acquiring Say Technologies on August 10, 2021 (Berke, et al., 2021, Solberg, 2021). By the time of acquisition, Say’s proxy processing technology provides two main functions and may help investors to better engage with the companies and exercise their shareholder rights.³ First, a voting platform offers retail investors seamless and user-friendly access to their proxy votes (See Figure 1 Panel A). Users’ trading accounts are directly linked to the platform, allowing them to cast their votes by simply clicking a link in an email. Second, Say’s Q&A platform allows retail investors to submit and upvote questions that are addressed by company executives during events such as earnings calls and annual meetings (See

³ In an untabulated figure, Google search trends show that the acquisition brought considerable attention to the Say Technologies platform.

Figure 1 Panel B). These questions often focus on issues related to shareholder rights, including future strategic plans, CEO compensation, M&A activity, and policies on dividends and share repurchases, and provide a channel for retail investors to communicate on governance issues. Moreover, firms also utilize information platforms, such as social media, to disseminate information. Figure 2 shows examples of firms using Twitter to share voting information. Overall, these digital platforms help Robinhood users gain easier access to the capital market and financial information.

While recent studies have examined the trading behavior of platform-based investors, no paper has examined their voting activities so far. This paper examines their voting behavior and how digital platforms influence their voting in two ways: (1) a voting platform that improves access to proxy voting, and (2) information platforms that enable more timely and effective communication.

3. Literature Review and Hypothesis Development

3.1. Retail shareholders and proxy voting

Despite the significant rise in retail investor ownership through online trading platforms, these investors often do not exercise their ownership rights through proxy voting. With an information disadvantage and fewer incentives to vote, retail shareholders are less likely to vote and tend to vote differently (Brav, et al., 2022, Cassell, et al., 2024, Lee and Souther, 2020). Based on data from Broadridge (2024), retail shareholders vote on only 30% of their shares, compared to participation rates of at least 80% among institutional investors. The introduction of zero-commission trading platforms has further reduced retail investor participation. Aggarwal, et al. (2025) document that firms more likely to attract retail investors have experienced a significant

increase in non-voting. Overall, retail investors may not view voting as a meaningful part of value creation and often do not recognize the potential influence of their votes (FTI, 2022). Some retail investors may simply believe that their individual votes have little impact on corporate outcomes (Chapelle, 2020). Retail shareholders are often overlooked until the outcome of a vote appears uncertain or too close to call, at which point companies may shift their focus to mobilizing these investors to vote in a last-minute effort (FTI, 2022).

In 2018, the Securities and Exchange Commission (SEC) conducted a roundtable on the proxy process to discuss the issue of retail Shareholder Participation. A key concern was the persistently low voting rates among retail investors and whether this trend should inform updates to existing regulations. The roundtable aimed to understand whether better communication and coordination, increased use of technology, regulatory changes, or enhanced investor education could help boost retail shareholder participation (SEC, 2018a, SEC, 2018b). Later in 2021, SEC Commissioner Allison Herren Lee emphasized that “Every Vote Counts” and called for updates to the rules to “empower retail investors.” However, her speech focused more on the critical role of institutional investors, particularly how funds vote and disclose (SEC, 2021).

While a substantial body of literature highlights the influential role institutional investors play in corporate governance through proxy voting (Ertimur, et al., 2010, Ertimur, et al., 2013, Gillan and Starks, 2000, McCahery, et al., 2016), research on retail shareholders is more limited and focuses on their trading behavior. Some recent studies investigate the voting behaviors of retail investors. Traditionally, retail shareholders are viewed as management-friendly (Broadridge, 2024). According to Brav, et al. (2022), they are more supportive of management in firms where they hold larger stakes and their turnout declines significantly when they face higher costs, proxied by restrictions on access to their preferred voting methods. Moreover, retail shareholders also base

their voting decisions on firm performance. Brav, et al. (2022) document that, conditional on participation, retail investors tend to punish the management of poorly performing firms. Similarly, Cassell, et al. (2024) find that shareholder opposition to auditor ratification is driven more by investment performance than by audit performance, and auditor ratification votes tend to be less informed in firms with higher retail ownership.

3.2. Retail shareholder participation and the digital voting platform

Digital and fintech platforms have transformed retail investor participation by lowering barriers to entry, improving accessibility, efficiency, and transparency, and providing tools once primarily available to institutional investors (He, et al., 2025). Online and mobile trading applications have democratized access to securities trading and financial information (Chang and Zhao, 2024, Havakhor, et al., 2025), while information platforms enhance communication and engagement, lowering processing cost for individual investors (Blankespoor, et al., 2014, Blankespoor, et al., 2020, Lee and Zhong, 2022). However, information platforms can spread misinformation, encouraging herd behavior and market instability (Campbell, et al., 2023, Hsieh, et al., 2020, Lyócsa, et al., 2022), and the ease of access to trading apps may lead to speculative and impulsive trading, often resulting in substantial losses for unsophisticated investors (Barber, et al., 2022).

The evolution of digital platforms may also influence retail investor participation in proxy voting. While brokers typically provide proprietary online platforms where investors can log in to manage their accounts and execute trades, voting often requires navigating to a separate website operated by a proxy service provider. These voting platforms are often not directly linked with the investors' brokerage accounts, requiring additional time and effort in the voting process. By contrast, the new voting platform offers retail investors seamless and user-friendly access to their

proxy votes with their trading accounts directly linked to the voting platform. According to a survey, the vast majority of investors (75%) said they would be more likely to participate in proxy voting if the process were available through a mobile app (Broadridge, 2021). From a cost-benefit perspective, Brav, et al. (2022) find that retail shareholders are sensitive to voting costs and turnout declines significantly when they face higher costs. Accordingly, by reducing participation costs through improved access, the new platform is expected to increase retail shareholder voting.

While it may seem clear that introducing new technological tools could eliminate barriers and improve retail investor participation, there are several reasons why the overall impact on retail voting may remain limited. First, improved access alone may not generate additional interest. Despite technological advances, such as online voting, retail voting participation has remained consistently low (Kastiel and Nili, 2016). Similarly, evidence from studies on political voting suggests that the introduction of online voting systems has had minimal impact on turnout. Individuals who vote online are typically those who would have voted through traditional methods anyway, indicating no “pull” effect (Germann and Serdült, 2017). More importantly, the information barriers still remain high. Making informed decisions like assessing board nominees or interpreting complex resolutions requires substantial time and effort and often demands a level of information that is not always easily accessible. From a rational-choice theory, for investors with restricted resources, the costs to make an intelligent voting decision may outweigh the benefits. Consequently, it can be economically rational to remain uninformed and avoid voting at all (Kastiel and Nili, 2016).

The Say voting platform provides easier access and a user-friendly interface that is directly integrated with investors’ accounts. It allows users to vote by simply clicking a link, with basic voting materials readily available. Although certain barriers to participation remain, I expect retail

investors, particularly Robinhood users, to be more likely to vote when costs are reduced through the introduction of Say voting platform. Given their tendency to be management-friendly shareholders and to invest in firms with which they are familiar or supportive, I also expect them to be more likely to support management. I state this prediction in the following alternative hypothesis:

H1a: The use of a digital voting platform is positively associated with retail shareholder voting turnout and support for management

3.3. Retail shareholder participation and digital information platforms

Retail investors are typically not the main focus of investor relations. Survey evidence from Godsell, et al. (2023) shows that management spends only 6.49% of its engagement time with retail investors, compared to over 60% with institutional investors (34.88% with existing and 26.60% with prospective institutions). Firms actively communicate and engage with institutional investors, providing them an information advantage over other investors through private phone calls or meetings (Brown, et al., 2019, Bushee, et al., 2018, Koch, et al., 2013), while retail investors are often informed through public channels such as social media platforms (Campbell, et al., 2023). In April 2013, the SEC confirmed that firms may use social media, such as Twitter, to disclose key information under Regulation FD. The purpose is to ensure that material information is disseminated in a manner reasonably designed to reach the public broadly and non-exclusively, thereby providing all investors with equal and timely access.

Prior theoretical research suggests that widely disseminating public information could reduce informed traders' information advantage, thereby lowering information asymmetry and improving market liquidity (Diamond and Verrecchia, 1991). Firms' use of information platforms

such as social media has been shown to increase retail investor awareness and engagement, offering complementary information channels that provide democratized and timely access to corporate information and material events (Blankespoor, et al., 2014, Blankespoor, et al., 2020, Lee, et al., 2015). Moreover, information disclosed through these platforms is often followed by an increase in retail interest and trading activity (Campbell, et al., 2023, Choi, et al., 2024, Farrell, et al., 2022).

However, other studies highlight potential downsides of increased information dissemination. For example, Jung, et al. (2018) show that firms can strategically withhold bad news, particularly when the magnitude of the news is worse. Firms tend to post fewer earnings announcements on social media. Boulland, et al. (2025) find that small-cap firms use social media opportunistically when announcing positive earnings news. They document subsequent stock price reversals following social media activity, indicating potential challenges in the market's price efficiency. Moreover, Campbell, et al. (2023) further document that excessive tweeting coincides with lower market liquidity and slower price formation, indicating potential harm to markets.

Recently, investor relations services firms emphasized the importance of using social media platforms to engage individual shareholders in voting (Fireman, 2022, McLoughlin, 2018). Traditional methods, such as phone calls, mailings, reminder emails, and lengthy letters from the chairman or CEO are costly and largely ineffective. In contrast, social media platforms offer a potentially powerful tool for shareholder engagement by making information easier to access and improving presence. Empirical evidence shows that the adoption of E-proxy legislation, which allows firms to disseminate proxy materials electronically, is associated with higher retail investor attention and greater participation during high-salience activism (Hafeez, et al., 2022). Moreover, when management makes greater efforts to distribute a complete set of proxy materials, retail voter

turnout rises and voting outcomes are more likely to align with management's recommendations Lee and Souther (2020).

Some firms voluntarily use Twitter to disseminate firm-specific information, including voting-related content, and also rely on Say Technologies' Q&A platform to respond to questions raised by retail investors and provide information of interest to them. Twitter, with its unique features, allows firms to share short messages with investors in a timely and broad manner, and it has become the investor relations departments' technology of choice for disseminating firm news (Blankespoor, et al., 2014). The Say Q&A platform enables retail investors to submit and upvote questions that will be addressed by company executives during events such as earnings calls and annual meetings, which facilitates more direct and timely communication with retail shareholders. One recent paper using the Say Q&A platform shows that meeting retail investors' information demands serves as an effective form of investor relations, increasing interest from retail shareholders (Choi, et al., 2024).

Together, I expect that firms' communication and engagement with retail investors through platforms such as the Say Q&A platform and Twitter will enhance participation and increase support for management in shareholder votes. I state this prediction in the alternative form:

H1b: Firms' use of information platforms is positively associated with retail shareholder voting turnout and support for management.

4. Data

I obtain shareholder voting data from the Institutional Shareholder Services (ISS) Voting Analytics U.S. database, which provides detailed proposal-level information on voting outcomes. The initial dataset contains 145,921 proposals from 2020 to 2022. I retain only proposals with

valid vote results and information to calculate the percentage of votes cast and votes in each direction, and I exclude say-on-pay frequency proposals because their outcomes are not reported in a pass/fail format. This filtering results in 120,197 proposals. I then obtain imputed ISS and Glass Lewis (GL) voting recommendations for U.S. companies following Zytneck (2025).⁴ These data are merged with firm-level financial fundamentals from Compustat, stock returns and market data from CRSP, analyst forecast data from I/B/E/S, and institutional (13F) holdings data from LSEG (formerly Thomson/Refinitiv). After excluding observations with missing control variables or institutional ownership data, the sample is reduced to 72,040 proposals.

I then merge the data with Robinhood user holdings from Robintrack. After excluding observations without Robinhood data, the final sample consists of 64,918 proposals. For the first empirical setting, I focus on a window spanning one year before and one year after Say Technologies' acquisition by Robinhood. I require that a firm have at least one annual meeting proposal in both the pre- and post-acquisition periods, resulting in a final sample of 40,655 proposals. Table 1 presents the sample selection process.

[Insert Table 1 About Here]

Robintrack (<https://robintrack.net/>) is a publicly available API covering the period from May 2, 2018, to August 13, 2020, which tracked the number of Robinhood users holding individual stocks on an hourly basis. For example, before the close of the first trading day in 2020, the data show that 217,479 users were holding Apple Inc at 15:48 ET. Following previous studies (Barber, et al., 2022, Welch, 2022), I extract the daily total number of users holding each stock prior to the close of trading (4 pm ET). While prior literature often infers retail ownership as one minus

⁴ The data were obtained from Jon Zytneck's website (<https://www.jonzytneck.com/data>). It estimates 96.4% of ISS recommendations with 99.6% accuracy, and 90.8% of Glass Lewis recommendations with 99.0% accuracy.

institutional ownership (Cassell, et al., 2024, Jung, et al., 2018), the Robintrack data allow for direct observation of retail investor activity on Robinhood, capturing the behavior of a consistent user group likely affected by the Say acquisition. However, one caveat of this data is that it records only the number of users holding each stock, without information on the number of shares held, providing a reasonable but noisy proxy for actual Robinhood activities (Welch, 2022).

Moreover, I hand-collected official Twitter account information for public firms and downloaded approximately one million tweets posted between 2020 and 2022.⁵ Using the ChatGPT API (see Online Appendix OA1 for the prompt), I first classify tweets into several broad categories: financial (investor-related information), business (products, services, operations), ESG (environmental, social, and governance), AI (technology), and routine (greetings and day-to-day updates). Within the financial category, I then identify tweets specifically related to shareholder voting, such as posts that provide voting instructions or encourage investor participation in upcoming proxy votes. I also hand-collect detailed event and Q&A data from the Say Q&A platform, including the number of questions answered, the number of upvotes each question received, and the full text of both questions and management.

5. Main Results

5.1. Retail shareholders and access barriers

For the first objective, to examine how reduced voting costs through improved access are associated with retail shareholder participation, I focus on Robinhood's acquisition of Say Technologies in 2021, using the following model:

⁵ Thank the research assistants for helping to collect the Twitter accounts.

$$Voting_Features = \beta \cdot (Robinhood_High \times Post_Say) + \lambda \cdot Controls + \alpha + \gamma + \varepsilon. \quad (1).$$

Using the difference-in-differences design, I define the post-treatment period (*Post_Say*) as the one-year span beginning in the quarter of the Say acquisition (July 2021 to June 2022), and the pre-treatment period as the year prior (July 2020 to June 2021).⁶ I define the treatment group (*Robinhood_High*) as firms with a high number of Robinhood users holding their stock, as these firms are more likely to be affected by improved access to proxy voting among retail investors. Firms are classified as treated if they fall within the top quartile based on the average daily number of users holding their stock during the first half of 2020.⁷

The measurement period for Robinhood users is selected for three reasons: (1) it captures the significant growth phase of the Robinhood user base; (2) it precedes the Say acquisition, providing a clean ex-ante pre-treatment; and (3) the Robintrack API was shut down in August 2020, making the first two quarters of 2020 the last available data. This period does not cover the later surge in GameStop and other meme stocks. However, the treatment group includes nearly all meme stocks identified in prior studies (Ahadzie, et al., 2025, Gianstefani, et al., 2025, XU, et al., 2025) and from a meme stock rankings list (Quiver, 2025).⁸ This suggests that the treatment group should capture the stocks of greatest interest to Robinhood users and those most likely to be affected by the Say acquisition.⁹

⁶ Annual shareholder meetings are typically held in the second quarter of the year. Therefore, the defined pre- and post-treatment periods align with the proxy voting seasons of 2021 and 2022, respectively.

⁷ To ensure consistency across the two settings, which have different sample sizes, I use an average of 1,600 Robinhood users as the threshold to define the treatment and control groups. This threshold is very close to the actual top-quartile cutoffs in each setting: 1,604 users in the first setting and 1,568 users in the second setting.

⁸ All stocks in these studies and the ranking list are included in the treatment group except for three tickers: KOSS, PHAT, and ANVS. The treatment group also covers nearly all firms participating in the Q&A platform, with the exception of KNL, HHH, and GRTS. The results remain very similar and consistent when these firms are added to the treatment group. Online Appendix OA2 provides the complete list of meme stocks from these studies and from the website ranking.

⁹ One concern is that meme stocks differ from other stocks, as they attract considerably more attention and may induce higher voting participation. To address this, I exclude meme stocks from the treatment group, and the results remain similar and robust.

The main dependent variable is voting turnout (*Voter Turnout*), measured as the percentage of shares voted out of total shares outstanding. I also examine the proportion of votes in each direction: *Vote For*, *Vote Against*, and *Vote Abstain*. In addition, I analyze the proportion of votes aligning with management and proxy advisory recommendations: *With Management*, *With ISS*, and *With GL*. Moreover, *Result Pass* is a binary variable indicating whether the proposal was approved. The control variables include stock- and firm-level characteristics, including firm size (*Size*), past stock returns (*LagReturn*), volatility (*LagVolatility*), book-to-market ratio (*BTM*), return on assets (*ROA*), leverage (*Leverage*), earnings surprise (*Earnings Surprise*), and the number of analysts (*#Analyst*). I also control for whether the proposal originates from an annual meeting (*Annual Meeting*) and for general retail ownership, measured as one minus institutional ownership (*Retail Ownership*). The model includes firm fixed effects and year-quarter fixed effects, with standard errors clustered at the firm level. All variables are defined in Appendix A.

Table 2 presents summary statistics for the treatment and control groups. In Panel A, the average (median) number of Robinhood users holding a stock in the treatment group is 16,311 (4,243), compared to only 395 (239) in the control group. Firms with high Robinhood user ownership tend to be larger, more established, and have greater institutional ownership as well as broader analyst coverage. These firms also exhibit lower levels of shareholder participation in Panel B. On average, 73.41 percent of shares outstanding are voted in the treatment group, compared to 78.15 percent in the control group. In addition, firms in the treatment group receive less support for proposals: on average, 67.00 percent of shares are voted in favor and 5.94 percent against, compared to 73.50 percent in favor and 4.37 percent against in the control group.

[Insert Table 2 About Here]

Figure 3, Panel A compares treatment and control groups based on Robinhood user holdings. Prior to the Say acquisition, voting behavior did not differ significantly between firms with higher and lower Robinhood user bases, supporting the parallel trends assumption. After the acquisition, firms with a higher number of Robinhood users experience a greater number of votes cast. In contrast, Panel B compares treatment and control groups based on general retail ownership (measured as one minus institutional ownership) and shows no clear pre- or post-period pattern, or a slight decrease in the post-period. This is consistent with the idea that retail investors vote less and that voting participation declines as retail ownership increases (Aggarwal, et al., 2025). Overall, the evidence suggests that Robinhood investors increase their voting activity following the reduction in participation costs.

[Insert Figure 3 About Here]

Table 3 presents the main results from a difference-in-differences regression. Following the introduction of the Say Technologies voting platform, firms with a large number of Robinhood users experienced a greater increase in shares voted, indicating that some retail investors are more likely to vote when the voting process becomes easier. Specifically, after the Say Technologies acquisition, the percentage of shares voted increased by 0.604 percentage points (p-value < 0.05) for the treatment group relative to other firms, providing support for H1a. van der Beck and Jaunin (2023) document that Robinhood users represent around 0.15% of the market based on the value of total equities held under management, while Welch (2022) estimates their share at approximately 2% of the U.S. market in Q1 2020, rising to about 5% in Q2 2020 based on implied trading volume. While the magnitude is modest, the effect may still be economically meaningful given the relatively small ownership stakes of Robinhood users. Brav, et al. (2022) document that retail voting turnout declines when voting costs rise, as proxied by restrictions on access to a

shareholder's preferred voting method. In contrast, this paper finds that turnout increases when retail investors gain access to a new, more convenient voting channel.

[Insert Table 3 About Here]

In contrast, the coefficient on the control variable for general retail ownership is negative and statistically significant. On average, a one percentage point increase in retail ownership is associated with a 0.192 percentage point (p -value < 0.01) decrease in voter turnout. This suggests that retail investors are typically less likely to vote, consistent with the pattern in Figure 3 Panel B, and with Aggarwal, et al. (2025), who document lower voting participation following the growth of retail ownership and online trading platforms. Overall, evidence from a subset of retail investors who gained easier access to the voting process shows that, although retail investors generally vote less, they are more likely to participate when participation barriers are reduced.

Moreover, retail investors are also more likely to vote in favor of management-related proposals, supporting H1a. Prior research suggests that retail investors tend to be management-friendly shareholders (Brav, et al., 2022, Lee and Souther, 2020), and Robinhood users in particular often exhibit emotional attachment to, and support for, the firms in which they invest (Gendron, et al., 2025). To explore this tendency, I divide the sample into two subsamples based on the characteristics of the proposals and examine whether voting patterns differ between them. Table 4 compares director elections and say-on-pay proposals, which are more internal and management-related, with other types of proposals.

[Insert Table 4 About Here]

Panel A shows that, after the Say Technologies acquisition, retail investors cast 0.776 percentage points more shares (p -value < 0.01) on management-related proposals and 0.806

percentage points more shares ‘for’ these proposals (p-value < 0.01) relative to the control group. For these proposals, they also voted 0.792 percentage points more shares in line with management’s recommendations (p-value < 0.01) and 1.018 percentage points more shares in line with ISS recommendations (p-value < 0.05). There is no significant change in the percentage of shares voted “against,” abstained, aligned with Glass Lewis, or in the voting outcome. In contrast, Panel B shows that retail investors are more likely to vote “against” other proposals that are less directly related to management. These results indicate that when participation barriers are reduced, retail investors not only vote more but also increase their support for management, supporting H1a. Table 5 alternatively separates proposals into management-sponsored and shareholder-sponsored categories. Consistent with the results in Table 4, retail shareholders show greater support for management-sponsored proposals, while they are more likely to abstain on shareholder-sponsored proposals.

[Insert Table 5 About Here]

Prior studies suggest that retail investors take firm performance into account when voting (Brav, et al., 2022, Cassell, et al., 2024). Table 6 separates firms into those with positive and negative past returns and finds no significant difference in voting patterns between the two subsamples. Retail shareholders even vote slightly more in line with management for firms with negative returns. This aligns with the traditional view that retail shareholders tend to support management (Brav, et al., 2022, Lee and Souther, 2020). Previous research indicates that Robinhood users often invest in consumer-oriented tech stocks with which they are familiar (Welch, 2022) and that investors in meme stocks often exhibit emotional attachment to and strong support for the companies (Gendron, et al., 2025). Overall, the evidence suggests that Robinhood

users tend to support management in proxy voting and do not punish management based on financial performance.

[Insert Table 6 About Here]

In Table 7, I examine stock returns and volatility around shareholder meeting dates. The evidence shows that firms with higher Robinhood users experience lower cumulative abnormal returns and higher volatility in the post-treatment period. Specifically, following the Say Technologies acquisition, the treatment group underperforms by about 1.155% over the [0,5] window (p-value < 0.05) and 2.365% over the [0,21] window (p-value < 0.01) after meeting dates, relative to other firms. At the same time, these firms experience a 0.481% increase in volatility in the first two trading days, and this effect remains significant over the month. Taken together, the results suggest that shareholder votes become less informed when retail shareholders participate more actively through the voting platform.

[Insert Table 7 About Here]

5.2. The role of information platforms

For the second objective to examine the role of information platforms, I focus on firms' communication and interaction with retail investors, particularly through Twitter and the Say Q&A platform. I estimate the effects using the following model:

$$Voting_Features = \beta \cdot (Robinhood_High \times Information_Platform) + \lambda \cdot Controls + \alpha + \gamma + \varepsilon \quad (2).$$

The variable *Robinhood_High* is defined as in previous analyses. The indicator *Information_Platform* equals one if either of the following conditions is met. *Voting_Tweets* equals one if the firm posted any tweet related to proxy voting in the quarter before the meeting date. Similarly, *Say_Q&A* is an indicator variable that equals one if the firm responded to at least one

question on the Say Q&A platform in the quarter before the meeting date. The control variables and model specification follow those used in the previous analyses.

Table 8, Panel A, reports the distribution of firms' use of information platforms. Overall, in almost half of the meetings (46%), there is at least one tweet in the prior quarter. Breaking down by content, 25%, 44%, 39%, 11%, and 34% of meetings feature at least one financial, business, AI, ESG, or routine-related tweet, respectively. However, relatively few firms use Twitter to communicate voting-related information, and only a small number participate in the Say Q&A platform. Specifically, in just 0.2% of meetings was there at least one voting-related tweet, and in only 0.1% of meetings did a firm respond to a question on the Q&A platform.¹⁰

[Insert Table 8 About Here]

Panel B shows that firms using information platforms to disseminate voting-related tweets or to answer questions on the Say Q&A platform tend to be younger, have smaller market capitalizations, and attract a higher number of Robinhood users holding their stock. On average, these firms have 31,001 Robinhood users, compared to only 4,285 for firms that do not use either platform. Panel C indicates that such firms typically experience lower shareholder participation, with only 59.97 percent of shares voted on average, compared to 76.43 percent for other firms. They also face nearly double the opposition to their proposals, with 9.71 percent of votes cast against them compared to 4.81 percent for other firms.¹¹

¹⁰ In an untabulated analysis, I examine the sentiment of firms' tweets and their responses on the Say Q&A platform following Loughran and McDonald (2014). Overall, the tone is highly positive: on average, tweets contain 22.2% more positive than negative words, while responses on the Say Q&A platform contain 26.7% more positive than negative words.

¹¹ The summary statistics are similar when examining voting-related tweets and the Say Q&A platform separately: in both cases, firms experience lower shareholder participation, with fewer votes in favor and more votes against.

Table 9 examines whether communication on information platforms influences voting behavior. Panel A shows the overall result when firms use information platforms (i.e., Twitter or Q&A forums). Overall, for firms with high Robinhood users, the use of information platforms does not affect turnout but is associated with greater support. Specifically, the coefficient on the interaction term for votes in favor of the proposal is 9.311 (p-value < 0.05), which implies a net effect of approximately 1.169 percentage points (p-value < 0.01) more votes cast ‘for’ the proposal. These firms also see significantly more votes cast in line with management and ISS recommendations. However, using information platforms alone, without high Robinhood holdings, is associated with lower support, consistent with the summary statistics indicating that firms disseminating information on information platforms are more likely to be those under pressure and seeking support in proxy voting.

[Insert Table 9 About Here]

Table 10 presents the relationship between different types of tweets and voting behavior. Panel A reports the results for financial- and business-related tweets, while Panel B focuses on AI- and routine-related tweets. The findings show that financial and business tweets have no effect on voting behavior. By contrast, firms with a larger retail investor base that disclose more information about AI, or use routine tweets to engage with investors, tend to receive greater participation. In particular, for firms with high Robinhood users, the coefficient on the interaction term for AI- and routine-related tweets in the turnout specification is 1.779 (p-value < 0.01), implying a net increase of 0.892 percentage points (p-value < 0.01) in voting participation relative to firms without such tweets. These firms also attract significantly more votes cast ‘for’ proposals, as well as greater alignment with management and proxy advisor recommendations. This pattern is consistent with the view that retail investors are generally tech-savvy and more inclined to support firms with

which they are familiar (Welch, 2022). Overall, these results provide partial support for Hypothesis 1b. While engagement through information platforms does not significantly broaden overall participation, it can be an effective tool for firms to engage existing retail investors and strengthen shareholder support.

[Insert Table 10 About Here]

5.3. Robustness Checks

First, one concern is that Robinhood users may follow distinct trading patterns, and as a result, the identification of treatment firms could be correlated with other firm characteristics. To address this potential confounding issue, I interact the *Robinhood_High* with all control variables in the model (see Table 11, Column 1). This approach allows the effects of the controls to vary between high- and low-Robinhood firms, thereby mitigating bias from systematic differences between the two groups. With these additional controls, the percentage of shares voted increases by 0.499 percentage points (p-value < 0.10) for the treatment group relative to other firms after the Say Technologies acquisition. While the magnitude and significance are slightly lower than the 0.604 percentage point increase (p-value < 0.05) reported in Table 3, the results remain consistent with the baseline.

Second, in Column 2, I use a continuous measure of Robinhood holdings, defined as the log of the number of Robinhood users holding a firm's stock, instead of a dummy variable. A one-unit increase in the log of Robinhood users is associated with a 0.128 percentage point (p-value < 0.05) increase in the percentage of shares voted after the say acquisition. The results remain statistically significant and consistent with the baseline findings, confirming that the main results are not sensitive to alternative measurement.

Finally, I extend the post-treatment period to two years after the Say Technologies acquisition, rather than the one-year window used in the main specification in Column 3. The percentage of shares voted increases by 0.750 percentage points ($p\text{-value} < 0.01$) for the treatment group relative to other firms. The estimated effect not only remains statistically significant but is also stronger in magnitude, indicating that the impact persists over time and is not sensitive to the choice of post-treatment period.

[Insert Table 11 About Here]

6. Conclusion

This paper investigates the voting behavior of retail shareholders and the effects of reduced access barriers and enhanced firm communication on their voting. Using a difference-in-differences design, I find that the introduction of an easily accessible voting platform increases retail shareholder participation. These investors are also more likely to support management-related proposals, consistent with the view that retail shareholders are generally management-friendly. However, their votes appear less informed, as indicated by lower stock returns and higher volatility. In addition, I show that firms that use information platforms to communicate receive greater support from retail shareholders. Overall, digital platforms may serve as an effective tool for firms to engage with and influence this emerging class of shareholders.

This study makes several contributions. First, it extends research on proxy voting by focusing on retail shareholders, particularly emerging retail investors on trading platforms, an increasingly influential group whose voting behavior remains understudied. Second, it contributes to the growing body of work on retail investors and digital platforms. This paper shows that digital platforms could influence voting behavior in addition to trading activity. In 2018, the SEC

conducted a roundtable on the proxy process to discuss whether increased use of technology and better communication and coordination could help improve participation (SEC, 2018a, SEC, 2018b). This paper provides evidence on how easier access to the voting platform and the use of information platforms influence retail shareholder participation and voting behavior.

One limitation of this paper is the difficulty of directly observing the voting behavior of retail investors. Available datasets typically provide only the final proxy voting outcomes. Prior studies have generally used retail ownership (e.g., one minus institutional ownership) as a proxy for the percentage of votes controlled by retail shareholders (Cassell, et al., 2024, Lee and Souther, 2020). The only exception is the paper by Brav, et al. (2022), which uses data provided by Broadridge Financial Solutions under a confidentiality agreement, where the retail investors captured are more likely to represent traditional retail participants. Another limitation is that the paper may not generalize to all retail investors. Empirical analysis of this paper focuses on data from Robinhood users, who may differ from the general retail investor (Barber, et al., 2022, Eaton, et al., 2022). Nonetheless, the findings capture emerging patterns in the behavior of a new generation of retail investors, whose presence and influence in the market have been steadily increasing over time.

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Appendix A: Variable Definition

Variable	Definition
<i>Voter Turnout</i>	Percentage of shares voted out of total shares outstanding.
<i>Vote For</i>	Percentage of shares voted “for” the proposal out of total shares outstanding.
<i>Vote Against</i>	Percentage of shares voted “against” the proposal out of total shares outstanding.
<i>Vote Abstain</i>	Percentage of shares voted “abstain” out of total shares outstanding.
<i>With Management</i>	Percentage of shares voted in line with the recommendation of management, out of total shares outstanding.
<i>With ISS</i>	Percentage of shares voted in line with the imputed recommendation of ISS, out of total shares outstanding.
<i>With GL</i>	Percentage of shares voted in line with the imputed recommendation of Glass Lewis, out of total shares outstanding.
<i>Result Pass</i>	Equals 1 if the proposal was approved, and 0 otherwise.
<i>CAR</i> [0, <i>i</i>]	Cumulative abnormal returns measured as the stock return minus the value-weighted market return over the [0, <i>i</i>] trading-day window around the meeting date.
<i>Volatility</i> [0, <i>i</i>]	Standard deviation of daily stock returns over the [0, <i>i</i>] trading-day window around the meeting date, minus the market volatility in the same window.
<i>Robinhood_Users</i>	The average number of users holding the firm’s stock during the first two quarters (Jan–Jun) of 2020. $\text{Log}(\text{Robinhood_Users})$ is the natural logarithm of one plus the number of Robinhood users.
<i>Robinhood_High</i>	Equals 1 if the firm is in the top quartile of Robinhood user holdings, and 0 otherwise. User holdings are measured as the average daily number of users holding the firm’s stock during the first two quarters (Jan–Jun) of 2020.
<i>Retail_Ownership</i>	The percentage of retail ownership, measured as one minus institutional ownership, in the quarter before the meeting date.
<i>Retail_High</i>	Equals 1 if the firm is in the top quartile of general retail ownership (measured as one minus institutional ownership), and 0 otherwise. The ownership is measured among the same period of Robinhood user holding that is the first two quarters (Jan–Jun) of 2020.
<i>Post_Say</i>	Equals 1 for the post-treatment period (July 2021 to June 2022), starting in the quarter of the Say acquisition, and 0 for the pre-treatment period (July 2020 to June 2021).
<i>Information_Platform</i>	Equals 1 if the firm provides additional information on a digital platform (i.e., at least one voting-related tweet or at least one answer on the Say Q&A platform) in the quarter before the meeting date, and 0 otherwise.
<i>Tweets</i>	Equals 1 if there is at least one tweet in the quarter before the meeting date, and 0 otherwise.
<i>Financial_Tweets</i>	Equals 1 if there is at least one financial-related tweet in the quarter before the meeting date, and 0 otherwise.
<i>Business_Tweets</i>	Equals 1 if there is at least one business-related tweet in the quarter before the meeting date, and 0 otherwise.
<i>AI_Tweets</i>	Equals 1 if there is at least one AI-related tweet in the quarter before the meeting date, and 0 otherwise.

<i>ESG_Tweets</i>	Equals 1 if there is at least one ESG-related tweet in the quarter before the meeting date, and 0 otherwise.
<i>Routine_Tweets</i>	Equals 1 if there is at least one routine-related tweet in the quarter before the meeting date, and 0 otherwise.
<i>Voting_Tweets</i>	Equals 1 if there is at least one voting-related tweet in the quarter before the meeting date, and 0 otherwise.
<i>Say_Q&A</i>	Equals 1 if there is at least one answered Q&A event on the Say platform in the quarter before the meeting date, and 0 otherwise.
<i>Post_Say_2Y</i>	Equals 1 for a longer post-treatment period (July 2021 to June 2023), starting in the quarter of the Say acquisition, and 0 for the pre-treatment period (July 2020 to June 2021).
<i>Size</i>	Natural logarithm of one plus market capitalization.
<i>LagReturn</i>	Stock return in the quarter preceding the meeting date.
<i>LagVolatility</i>	Standard deviation of daily stock returns during the quarter preceding the meeting date.
<i>BTM</i>	Book-to-market ratio.
<i>ROA</i>	Return on assets.
<i>Leverage</i>	Total debt divided by total assets.
<i>Earnings Surprise</i>	Difference between actual EPS and analysts' forecasted EPS, divided by stock price.
<i>#Analyst</i>	Natural logarithm of one plus the number of analysts covering the firm.
<i>Annual Meeting</i>	Equals 1 if the proposal was voted on during the annual meeting, and 0 otherwise.

*All continuous variables are winsorized at the 1st and 99th percentiles.

Figure 1 Say Voting and Q&A platform

Panel A: Say Voting Platform

The screenshot displays the Vennvest Say Voting Platform interface. On the left, a summary card for the user 'Aaron B.' shows they own XYZ stock and provides instructions for the 2023 Annual Meeting ballot, including a 'Vote Now' button. The main interface features a header with the Vennvest logo and user information. Below the header, the company name 'XYZ Corporation' and the event '2023 Annual Meeting' are displayed. A 'Proposals' sidebar lists 'Removal of Director', 'Election of Additional Directors', and 'Ratification of Auditors'. The central area contains two proposals: '1. Removal of Alfred Jones as Director' and '2. Election of Additional Directors'. Each proposal includes a 'Board proposal' label, a description, and radio button options for 'For', 'Withhold', and 'Abstain'. The 'Election of Additional Directors' proposal shows a 'For' option selected and a note that 2/2 'For' votes have been cast. On the right, there are three informational panels: 'Shareholder resources' with links to 'Proxy Statement' and 'Form 10-K', 'Management materials', and 'Meeting Information' which includes the date 'June 23, 2023' at '3:00 PM US/Pacific' and the address 'XYZ Corporation, 123 Birch Street, New York, NY 12345'. A 'Register to attend' button is also present.

Panel B: Say Q&A Platform Examples ¹²

Example 1

SAY | **Lemonade Q4 2021 Earnings Q&A**
FEBRUARY 24, 2022 2:00 PM CET

Answered View Answer ▶

DARRIN S. ASKS Retail

There hasn't been any insider buying while the stock has gone below the IPO price which is very concerning to me given just about every retail investor is in the red, are there plans to initiate a buyback or does the executive team have a price in mind for individual buys?

748 Votes
93.8K LMND Shares Represented

Shares Buyback

LEMONADE ANSWERS

 **Daniel Schreiber**
Chief Executive Officer

The market overall has clearly been very volatile these last few months. And growth tech companies across all sectors have seen their shares hit very hard. So Lemonade declines, in that sense, are fairly typical. And clearly, all of this has much more to do with macroeconomic trends like inflation and rate hikes and geopolitical concerns like what's happening in Russia and the Ukraine, then with the performance of these growth stocks per se or of Lemonade in particular.

Example 2

SAY | **Robinhood 2022 Annual Shareholder Meeting Q&A**
JUNE 22, 2022 6:00 PM CEST

Answered View Answer ▶

CODY C. ASKS Retail

Can you talk about how the ceo took home \$796.12 million in 2021 when the stock is now down over 80% ytd? Are share holders really in the best interest?

4.0K Votes
2.3M HOOD Shares Represented

CEO

 **Vlad Tenev**
Chairman and Chief Executive Officer

Thank you for the question, Cody. So, the intention of my compensation as decided by the board is to align as closely as possible with the long term interest of the company and shareholders. And I think a lot of times, the numbers and the headlines can be sensationalized in the press, but if you look at how that grant is actually structured, the awards vest upon achievement of aggressive share price targets. So, the vast majority of that compensation is only achieved when Robinhood gets to the hundreds of dollars per share. And the top price target I think is \$300 per share over the next seven years. So, the goal is actually to incentivize me to very, very strongly deliver results for the company and for shareholders.

Example 3

SAY | **Lucid Group Q4 2021 Earnings Q&A**
MARCH 1, 2022 6:30 AM CST

Answered View Answer ▶


PRATEEK SINGH K. ASKS Retail

What are the next plans for the company?

6.1K Votes
1.0M LCID Shares Represented

Future

LUCID GROUP ANSWERS

 **Peter Rawlinson**
Chief Executive Officer & Chief Technology Officer



Well, as we discussed in our previous remarks, right now, we're focused on ramping up production and achieving delivery targets. And we've got a laser focus on the team, the company is just laser-focused on that. As we seek to fulfil what is now 25,000 reservations, over 25,000 that have been placed by customers for just the listed air. So now we've got grand touring in production and then the next product is already taking place. Then we've got Touring coming later this year. But the one that I'm really excited about is Pure. Pure is on schedule for late this year, the Pure version of Lucid Air in its purest most affordable form.

¹² The answers for Examples 1 and 3 are too long to include here. Full event details and answers for all three examples can be found at: <https://app.saytechnologies.com/lemonade-2021-q4>, <https://app.saytechnologies.com/robinhood-2022-annual>, and <https://app.saytechnologies.com/lucid-2021-q4>.

Figure 2 Tweets examples

 **Bionano** @bionano · Apr 27, 2022  ...

Bionano Shareholders: The Proxy for our 2022 Annual Meeting is on file! Please VOTE! Your vote MATTERS and helps us reach quorum. Look for an email from your broker or for our proxy card, which should come by mail. Thank you for your participation! bit.ly/3OJoBH5 \$BNGO

 15  12  70   



 **CEL-SCI Corporation** @CelSciCorp · Jun 25, 2021  ...

\$CVM Shareholders, please vote. Too many of you have told me that your broker has not sent you your proxy or that you simply have not voted. Please ask for the proxy from your broker or call 877-870-8565 for help. We need your support every day.

 4  4  38   

 **Vislink**  @Vislink · Aug 9, 2021  ...

We are currently at 49.45% votes and need approximately 248K votes to make quorum 08/18/21. Thank you to all the retailers that have stepped up so far. To vote on the phone 888-518-1552 Kingsdale Advisors, record date April 26th. 1 vote for every share held April 26th. \$VISL

 6  6  50   

 **Vaxart** @Vaxart · Jul 1, 2022  ...

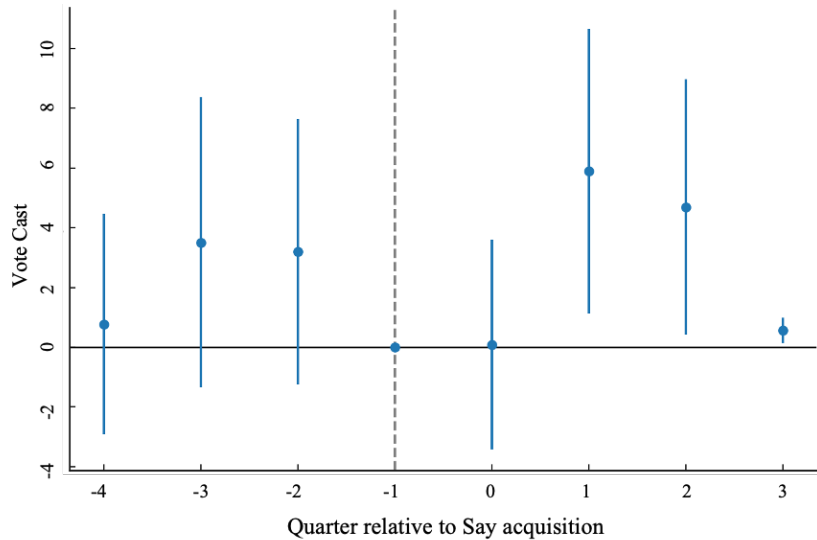
We urge \$VXRT stockholders of record (as of 4/11/22) to vote by July 5th - we encourage a 'yes' vote on all Proxy Proposals, including Proxy Proposal #2; those who previously voted 'no' can change their vote before the deadline.

 15  10  38   

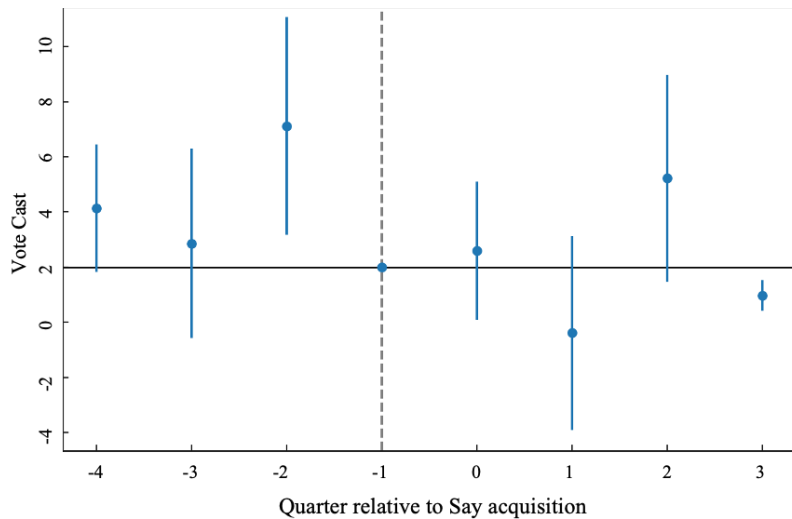
Figure 3 Analysis of Time Trends

This figure presents quarterly coefficient estimates and their 90% confidence intervals from a regression examining votes cast around the adoption of Say Technologies. Panel A reports estimates based on the *Robinhood_High* measure of treatment, whereas Panel B reports estimates based on the *Retail_High* measure. The regression includes control variables, as well as year-quarter and firm fixed effects. Standard errors are clustered at the firm level. All coefficients are estimated relative to the base period, the second quarter of 2021 (t-1), the last quarter prior to the acquisition of Say Technologies.¹³

Panel A: Treatment Based on *Robinhood_High* Firms



Panel B: Treatment Based on *Retail_High* Firms



¹³ The confidence interval is narrower in the t+3 period because of the larger number of observations during that time. This reflects the fact that firms typically hold their annual meetings in the second quarter of the year.

Table 1 Sample Selection

Sample Selection	Number of Proposals
Voting proposals during 2020–2022	145,921
With valid vote results and voting information	120,197
With available PERMNO and GVKEY	96,082
With available control variables	72,040
With available Robinhood holding data	64,918
Setting 1: Sample period between July 2020 and June 2022, with at least one annual meeting proposal in both the pre- and post-periods	40,655

Table 2 Summary Statistics

This table reports summary statistics for the treatment group (*Robinhood_High=1*) and the control group (*Robinhood_High=0*). Panel A presents variables at the meeting level, and Panel B presents variables at the proposal level. All variables are defined in Appendix A.

Panel A: Meeting-Level Firm Characteristics

	<i>Robinhood_High=0</i> (N=3486)					<i>Robinhood_High=1</i> (N=1167)				
	Mean	Std Dev	25th	Median	75th	Mean	Std Dev	25th	Median	75th
<i>Robinhood_Users</i>	395	395	88	239	607	16311	47168	2388	4243	9667
<i>Retail_Holding</i>	33.32	27.99	10.18	24.44	52.97	28.71	23.11	12.59	22.79	36.69
<i>Age</i>	25.42	15.62	11.00	24.00	36.00	27.36	18.55	11.00	23.00	40.00
<i>Size</i>	6.97	1.86	5.53	7.05	8.31	8.55	2.31	6.87	8.58	10.44
<i>LagReturn</i>	2.09	24.65	-12.96	0.94	14.74	2.25	29.25	-16.43	-0.36	16.95
<i>LagVolatility</i>	3.03	1.70	1.90	2.55	3.71	3.60	2.06	2.11	3.17	4.53
<i>BTM</i>	0.53	0.47	0.21	0.44	0.77	0.35	0.46	0.09	0.24	0.49
<i>ROA</i>	0.00	0.05	0.00	0.00	0.02	-0.01	0.06	-0.02	0.00	0.02
<i>Leverage</i>	0.23	0.22	0.04	0.18	0.37	0.34	0.25	0.13	0.33	0.49
<i>Earnings surprise</i>	0.15	1.33	0.00	0.10	0.40	0.15	1.51	-0.03	0.10	0.38
<i>#Analyst</i>	1.56	0.85	1.10	1.61	2.20	2.29	0.81	1.79	2.48	2.89
<i>CAR [0,1]</i>	0.35	3.78	-1.51	0.14	2.11	0.39	4.32	-1.78	0.20	2.36
<i>CAR [0,5]</i>	0.60	6.56	-2.76	0.25	3.63	1.15	7.95	-3.17	0.71	4.98
<i>CAR [0,21]</i>	1.13	12.27	-5.52	0.16	6.61	2.99	15.75	-6.52	1.50	9.24
<i>Volatility [0,1]</i>	1.12	2.20	-0.22	0.63	1.92	1.62	2.56	-0.02	0.88	2.67
<i>Volatility [0,5]</i>	1.46	1.76	0.35	1.07	2.14	2.02	2.09	0.58	1.55	2.95
<i>Volatility [0,21]</i>	1.54	1.61	0.52	1.17	2.17	2.11	1.94	0.73	1.73	2.96

Panel B: Proposal-Level Voting Features

	<i>Robinhood_High=0</i> (N=28,850)					<i>Robinhood_High=1</i> (N=11,805)				
	Mean	Std Dev	25th	Median	75th	Mean	Std Dev	25th	Median	75th
<i>Voter Turnout</i>	78.15	13.61	72.13	81.89	87.82	73.41	13.88	68.34	76.58	82.94
<i>Vote For</i>	73.50	15.80	65.41	77.85	85.18	67.00	18.08	60.16	71.98	79.62
<i>Vote Against</i>	4.37	7.26	0.65	1.82	4.64	5.94	10.74	0.72	1.94	5.19
<i>Vote Abstain</i>	0.16	0.43	0.00	0.03	0.11	0.23	0.45	0.02	0.11	0.24
<i>With Management</i>	73.67	15.56	65.50	77.86	85.19	68.11	16.35	61.11	72.12	79.65
<i>With Glass Lewis</i>	69.60	22.95	62.95	77.58	85.08	65.41	20.74	58.72	71.81	79.53
<i>With ISS</i>	72.21	20.32	66.56	78.60	85.48	66.74	19.18	60.63	72.16	79.69
<i>Vote Pass</i>	0.99	0.10	1.00	1.00	1.00	0.95	0.22	1.00	1.00	1.00

Table 3 Retail Shareholder Voting

This table presents the main results from difference-in-differences regressions analyzing retail shareholder voting in response to an exogenous reduction in the cost of voting. The dependent variable, *Voter Turnout*, is defined as the percentage of shares voted out of shares outstanding. The variable *Robinhood_High* equals 1 for the treatment group (firms with a higher number of Robinhood users), and *Post_Say* equals 1 for the period following the acquisition of Say Technologies. All regressions are estimated with ordinary least squares (OLS), including firm and year-quarter fixed effects with clustered standard errors based on the firm. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. All variables are defined in Appendix A.

	(1) <i>Voter Turnout</i>
<i>Robinhood_High</i> × <i>Post_say</i>	0.604** (2.53)
<i>Size</i>	1.783*** (4.16)
<i>LagReturn</i>	-0.006 (-1.10)
<i>LagVolatility</i>	-0.197 (-1.64)
<i>BTM</i>	0.011 (0.01)
<i>ROA</i>	-4.337 (-0.87)
<i>Leverage</i>	0.220 (0.10)
<i>Earnings surprise</i>	-0.085 (-0.77)
<i>#Analyst</i>	-0.383 (-0.71)
<i>Annual Meeting</i>	-1.461 (-1.36)
<i>Retail Ownership</i>	-0.192*** (-6.71)
Firm FE	Yes
Year-Quarter FE	Yes
Observations	40,655
R-squared	0.852

Table 4 Retail Shareholder Voting and Management-related proposals

This table examines retail shareholder voting behavior for management-related proposals (i.e., director elections and say-on-pay proposals), as well as other types of proposals. All regressions are estimated with ordinary least squares (OLS), including firm and year-quarter fixed effects with clustered standard errors based on the firm. The regressions include controls for firm and stock-specific characteristics (same controls used in Table 3). *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. All variables are defined in Appendix A.

Panel A: Director Election and Say-on-Pay Proposals

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Voter Turnout</i>	<i>Vote For</i>	<i>Vote Against</i>	<i>Vote Abstain</i>	<i>With Management</i>	<i>With ISS</i>	<i>With GL</i>	<i>Vote Pass</i>
<i>Robinhood_High</i> × <i>Post_Say</i>	0.776*** (3.17)	0.806*** (2.82)	0.030 (0.19)	0.004 (0.28)	0.792*** (2.77)	1.018** (2.47)	0.474 (1.28)	0.000 (-0.16)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	33,195	33,195	33,195	33,195	33,195	32,411	30,859	33,195
R-squared	0.946	0.847	0.389	0.300	0.848	0.696	0.568	0.140

Panel B: Other Proposals

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Voter Turnout</i>	<i>Vote For</i>	<i>Vote Against</i>	<i>Vote Abstain</i>	<i>With Management</i>	<i>With ISS</i>	<i>With GL</i>	<i>Vote Pass</i>
<i>Robinhood_High</i> × <i>Post_Say</i>	-0.251 (-0.77)	-1.293** (-2.13)	0.871** (1.98)	0.042 (1.48)	-0.008 (-0.02)	-0.026 (-0.04)	-0.502 (-0.76)	-0.019* (-1.66)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7,448	7,448	7,448	7,448	7,425	7,356	6,959	7,448
R-squared	0.771	0.560	0.485	0.453	0.588	0.485	0.511	0.465

Table 5 Retail Shareholder Voting and Management-sponsored Proposals

This table examines retail shareholder voting behavior for management-sponsored and shareholder-sponsored proposals. All regressions are estimated with ordinary least squares (OLS), including firm and year-quarter fixed effects with clustered standard errors based on the firm. The regressions include controls for firm and stock-specific characteristics (same controls used in Table 3). *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. All variables are defined in Appendix A.

Panel A: Management-sponsored Proposals

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Voter Turnout</i>	<i>Vote For</i>	<i>Vote Against</i>	<i>Vote Abstain</i>	<i>With Management</i>	<i>With ISS</i>	<i>With GL</i>	<i>Vote Pass</i>
<i>Robinhood_High</i> × <i>Post_Say</i>	0.633*** (2.60)	0.700** (2.50)	-0.016 (-0.11)	0.004 (0.29)	0.697** (2.50)	0.959** (2.53)	0.267 (0.77)	-0.002 (-0.73)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	39,857	39,857	39,857	39,857	39,853	39,002	37,099	39,857
R-squared	0.851	0.732	0.287	0.263	0.733	0.559	0.485	0.131

Panel B: Shareholder-sponsored Proposals

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Voter Turnout</i>	<i>Vote For</i>	<i>Vote Against</i>	<i>Vote Abstain</i>	<i>With Management</i>	<i>With ISS</i>	<i>With GL</i>	<i>Vote Pass</i>
<i>Robinhood_High</i> × <i>Post_Say</i>	0.007 (0.01)	-0.312 (-0.14)	1.335 (0.77)	0.210* (1.97)	-0.740 (-0.31)	-0.712 (-0.21)	2.634 (0.84)	-0.011 (-0.17)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	691	691	691	691	678	677	675	691
R-squared	0.977	0.604	0.616	0.447	0.538	0.397	0.420	0.482

Table 6 Retail Shareholder Voting and Firm Performance

This table examines retail shareholder voting behavior across different types of proposals based on firm performance. Panels A and B compare retail voting behavior for proposals from firms with positive past stock returns versus those from firms with negative past stock returns. All regressions are estimated with ordinary least squares (OLS), including firm and year-quarter fixed effects with clustered standard errors based on the firm. The regressions include controls for firm and stock-specific characteristics (same controls used in Table 3). *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. All variables are defined in Appendix A.

Panel A: Proposals of Firms with Positive Past Stock Returns

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Voter Turnout</i>	<i>Vote For</i>	<i>Vote Against</i>	<i>Vote Abstain</i>	<i>With Management</i>	<i>With ISS</i>	<i>With GL</i>	<i>Vote Pass</i>
<i>Robinhood_High</i> × <i>Post_Say</i>	0.640 (1.49)	0.187 (0.34)	0.464 (1.35)	-0.005 (-0.18)	0.601 (1.20)	0.832 (1.25)	0.045 (0.08)	-0.003 (-0.53)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	21,805	21,805	21,805	21,805	21,794	21,336	20,408	21,805
R-squared	0.869	0.621	0.199	0.317	0.700	0.539	0.467	0.138

Panel B: Proposals of Firms with Negative Past Stock Returns

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Voter Turnout</i>	<i>Vote For</i>	<i>Vote Against</i>	<i>Vote Abstain</i>	<i>With Management</i>	<i>With ISS</i>	<i>With GL</i>	<i>Vote Pass</i>
<i>Robinhood_High</i> × <i>Post_Say</i>	0.769 (1.38)	1.032 (1.61)	-0.201 (-0.54)	0.064* (1.78)	1.099* (1.67)	0.664 (0.84)	0.188 (0.23)	-0.017** (-2.42)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	18,842	18,842	18,842	18,842	18,830	18,439	17,447	18,842
R-squared	0.874	0.690	0.269	0.297	0.736	0.569	0.502	0.164

Table 7 Retail Shareholder Voting, Stock Returns, and Volatility

This table examines stock returns and volatility around shareholder meeting dates. Columns (1) - (3) report results for stock returns over event windows [0,1], [0,5], and [0,21]. Columns (4) - (6) report results for stock volatility over the same windows. All regressions are estimated with ordinary least squares (OLS), including firm and year-quarter fixed effects with clustered standard errors based on the firm. The regressions include controls for firm and stock-specific characteristics (same controls used in Table 3). *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. All variables are defined in Appendix A.

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>CAR [0,1]</i>	<i>CAR [0,5]</i>	<i>CAR [0,21]</i>	<i>Volatility [0,1]</i>	<i>Volatility [0,5]</i>	<i>Volatility [0,21]</i>
<i>Robinhood_High</i> × <i>Post_say</i>	0.244 (0.98)	-1.155** (-2.53)	-2.365*** (-2.92)	0.481*** (3.47)	0.179* (1.94)	0.159** (2.49)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	40,655	40,655	40,655	40,655	40,655	40,655
R-squared	0.526	0.517	0.588	0.593	0.730	0.824

Table 8 Summary Statistics

This table reports summary statistics for firms that use information platforms to communicate with retail shareholders (*Information_Platform=1*) and those that do not (*Information_Platform=0*). Panel A summarizes the distribution of firms' use of information platforms. Panel B reports variables at the meeting level, and Panel C reports variables at the proposal level. All variables are defined in Appendix A.

Panel A: Use of Information Platforms

Meeting-level	N	Mean	Std Dev	25th	Median	75th
<i>Tweets</i>	7,551	0.46	0.50	0.00	0.00	1.00
<i>Financial_Tweets</i>	7,551	0.25	0.43	0.00	0.00	0.00
<i>Business_Tweets</i>	7,551	0.44	0.50	0.00	0.00	1.00
<i>AI_Tweets</i>	7,551	0.39	0.49	0.00	0.00	1.00
<i>ESG_Tweets</i>	7,551	0.11	0.31	0.00	0.00	0.00
<i>Routine_Tweets</i>	7,551	0.34	0.47	0.00	0.00	1.00
<i>Voting_Tweets</i>	7,551	0.002	0.05	0.00	0.00	0.00
<i>Say_Q&A</i>	7,551	0.001	0.03	0.00	0.00	0.00

Panel B: Meeting-Level Firm Characteristics

	<i>Information_Platform=0</i> (N=6,106)					<i>Information_Platform=1</i> (N=25)				
	Mean	Std	25th	Median	75th	Mean	Std	25th	Median	75th
<i>Robinhood_Users</i>	4,285	24,219	130	441	1,535	31,001	57,676	1,136	10,731	20,906
<i>Retail_Ownership</i>	32.93	27.78	10.44	24.13	51.68	57.67	28.35	34.36	64.59	83.52
<i>Age</i>	25.42	16.33	11.00	24.00	36.00	16.80	15.45	5.00	10.00	21.00
<i>Size</i>	7.13	2.12	5.54	7.13	8.54	7.48	2.61	5.68	6.66	9.07
<i>LagReturn</i>	-0.21	29.84	-18.40	-2.51	14.16	0.55	38.91	-17.69	-4.00	16.87
<i>Volatility</i>	4.07	2.47	2.18	3.44	5.31	5.64	3.27	3.55	5.42	6.69
<i>BTM</i>	0.58	0.61	0.19	0.44	0.82	0.42	0.45	0.16	0.32	0.63
<i>ROA</i>	-0.01	0.06	-0.01	0.00	0.02	-0.08	0.11	-0.16	-0.03	0.02
<i>Leverage</i>	0.27	0.24	0.06	0.23	0.42	0.17	0.14	0.07	0.14	0.22
<i>Earnings Surprise</i>	-0.01	1.77	-0.05	0.05	0.35	-1.16	2.60	-0.91	0.00	0.07
<i>#Analyst</i>	1.70	0.91	1.10	1.79	2.40	1.87	0.98	1.39	1.95	2.48

Panel C: Proposal-Level Voting Features

	<i>Information_Platform=0</i> (N=64,682)					<i>Information_Platform=1</i> (N=236)				
	Mean	Std	25th	Median	75th	Mean	Std	25th	Median	75th
<i>Voter Turnout</i>	76.43	14.13	70.10	80.04	86.55	59.97	19.36	40.44	61.85	70.45
<i>Vote For</i>	71.25	17.06	63.21	75.69	83.59	48.99	22.85	28.81	47.34	68.99
<i>Vote Against</i>	4.81	8.44	0.66	1.83	4.76	9.71	12.86	1.13	3.86	12.94
<i>Vote Abstain</i>	0.19	0.46	0.00	0.04	0.16	0.46	0.81	0.00	0.16	0.51
<i>With Management</i>	71.65	16.45	63.42	75.73	83.60	50.05	22.17	30.69	48.97	68.83
<i>With Glass Lewis</i>	70.31	20.47	64.23	76.36	83.91	45.44	23.95	29.58	45.27	64.83
<i>With ISS</i>	67.90	22.83	61.20	75.40	83.49	41.99	24.91	24.07	34.68	64.49
<i>Vote Pass</i>	0.98	0.15	1.00	1.00	1.00	0.83	0.38	1.00	1.00	1.00

Table 9 Retail Shareholder Voting and the Use of Information Platforms

This table examines retail shareholder voting behavior when firms use information platforms to communicate information. All regressions are estimated with ordinary least squares (OLS), including firm and year-quarter fixed effects with clustered standard errors based on the firm. The regressions include controls for firm and stock-specific characteristics (same controls used in Table 3). *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. All variables are defined in Appendix A.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Voter Turnout</i>	<i>Vote For</i>	<i>Vote Against</i>	<i>Vote Abstain</i>	<i>With Management</i>	<i>With ISS</i>	<i>With GL</i>	<i>Vote Pass</i>
<i>Information_Platform</i>	-4.218	-8.142***	3.179	0.244	-7.739**	-9.563	1.251	-0.106**
	(-1.26)	(-2.68)	(1.25)	(0.65)	(-2.43)	(-1.62)	(1.62)	(-2.01)
<i>Robinhood_High</i> × <i>Information_Platform</i>	4.688	9.311**	-3.786	-0.162	8.598**	12.195*	0.251	0.095
	(1.18)	(2.40)	(-1.36)	(-0.41)	(2.21)	(1.93)	(0.08)	(1.31)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	64,914	64,914	64,914	64,914	64,848	62,873	59,189	64,914
R-squared	0.801	0.612	0.194	0.223	0.667	0.518	0.440	0.143

Table 10 Retail Shareholder Voting and Other Tweets

This table examines retail shareholder voting behavior by tweet type. Panel A reports results for financial- and business-related tweets, while Panel B reports results for AI- and routine-related tweets. All regressions are estimated with ordinary least squares (OLS), including firm and year-quarter fixed effects with clustered standard errors based on the firm. The regressions include controls for firm and stock-specific characteristics (same controls used in Table 3). *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. All variables are defined in Appendix A.

Panel A: Financial- and Business-Related Tweets

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Voter Turnout</i>	<i>Vote For</i>	<i>Vote Against</i>	<i>Vote Abstain</i>	<i>With Management</i>	<i>With ISS</i>	<i>With GL</i>	<i>Vote Pass</i>
<i>Financial_Business_Tweet</i>	-0.493	-0.691	0.114	0.005	-0.648	-0.713	-0.552	-0.001
	(-1.13)	(-1.41)	(0.46)	(0.19)	(-1.32)	(-1.29)	(-0.89)	(-0.37)
<i>Robinhood_High</i> × <i>Financial_Business_Tweet</i>	0.406	0.391	0.106	0.025	-0.030	0.078	0.085	0.007
	(0.45)	(0.39)	(0.22)	(0.71)	(-0.03)	(0.07)	(0.08)	(1.03)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	64,914	64,914	64,914	64,914	64,848	62,873	59,189	64,914
R-squared	0.801	0.612	0.194	0.223	0.667	0.518	0.440	0.142

Panel B: AI- and Routine-related Tweets

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Voter Turnout</i>	<i>Vote For</i>	<i>Vote Against</i>	<i>Vote Abstain</i>	<i>With Management</i>	<i>With ISS</i>	<i>With GL</i>	<i>Vote Pass</i>
<i>AI_Routine_Tweets</i>	-0.887**	-1.454***	0.540***	0.005	-1.400***	-1.824***	-0.949**	-0.007*
	(-2.38)	(-3.41)	(2.97)	(0.28)	(-3.29)	(-3.36)	(-1.99)	(-1.95)
<i>Robinhood_High</i> × <i>AI_Routine_Tweets</i>	1.779***	1.846***	-0.101	-0.010	1.843***	1.946**	1.232*	0.005
	(3.24)	(2.93)	(-0.28)	(-0.39)	(2.96)	(2.38)	(1.77)	(0.80)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	64,914	64,914	64,914	64,914	64,848	62,873	59,189	64,914
R-squared	0.801	0.612	0.194	0.223	0.667	0.519	0.441	0.142

Table 11 Robustness Checks

This table reports the results of robustness checks. Column (1) presents results with additional controls, Column (2) uses an alternative measurement, and Column (3) uses an alternative time period. All regressions are estimated with ordinary least squares (OLS), including firm and year-quarter fixed effects with clustered standard errors based on the firm. The regressions include controls for firm and stock-specific characteristics, using the same set of controls as in Table 3, except in Column (1). *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. All variables are defined in Appendix A.

	(1) <i>Voter Turnout</i>	(2) <i>Voter Turnout</i>	(3) <i>Voter Turnout</i>
<i>Robinhood_High</i> × <i>Post_Say</i>	0.499* (1.66)		
<i>Log(Robinhood Users)</i> × <i>Post_Say</i>		0.128** (2.20)	
<i>Robinhood_High</i> × <i>Post_Say_2Y</i>			0.750*** (3.15)
<i>Size</i>	1.585*** (2.68)	1.797*** (4.18)	1.872*** (5.96)
<i>LagReturn</i>	-0.001 (-0.11)	-0.006 (-1.10)	-0.011*** (-2.83)
<i>LagVolatility</i>	-0.178 (-1.17)	-0.202* (-1.67)	-0.232** (-2.51)
<i>BTM</i>	-0.499 (-0.55)	-0.022 (-0.03)	-0.267 (-0.53)
<i>ROA</i>	-5.526 (-0.76)	-4.313 (-0.87)	-4.271 (-1.15)
<i>Leverage</i>	-3.318 (-1.57)	0.203 (0.09)	-0.585 (-0.39)
<i>Earnings Surprise</i>	-10.465 (-0.76)	-8.649 (-0.78)	-0.954 (-0.13)
<i>#Analyst</i>	0.135 (0.23)	-0.367 (-0.68)	-0.245 (-0.55)
<i>Annual Meeting</i>	-0.836 (-0.68)	-1.472 (-1.37)	-0.287 (-0.27)
<i>Retail Ownership</i>	-0.202*** (-6.29)	-0.191*** (-6.69)	-0.211*** (-10.03)
Firm FE	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes
<i>Robinhood_High</i> ×Controls	Yes	No	No
Observations	40,655	40,655	61,829
R-squared	0.852	0.852	0.831

Online Appendix OA1

This table shows the prompts used to identify financial-related and voting-related tweets.

Panel A: Prompt Used to Identify Financial-related Tweets

"I am investigating firms' disclosure activities on social media.
Please categorize the given tweets into the following categories:

Tweet Categories:

1. **Financial**: Tweets related to investor-focused updates, such as press releases, earnings announcements, annual meetings, dividends, mergers, acquisitions, or financial results.
2. **Business**: Tweets about products, services, operations, marketing campaigns, or engagement with stakeholders (e.g., customers, employees, or partners).
3. **ESG**: Tweets addressing topics like sustainability, environmental initiatives, social responsibility, governance practices, diversity, or ethics.
4. **AI**: Tweets mentioning or discussing artificial intelligence (AI).
5. **Routine**: Tweets about day-to-day updates, celebrations, holiday greetings, or other non-material and non-specific updates that do not fit into other categories.

Firm Tweets: "{tweets}"

Expected Output:

Provide a binary value (1 or 0) for the main one category that best describes the tweet.
Only one category should have a value of `1` and all other categories should have a value of `0`.

Return the categorization in the following JSON format:

```
```json
{"financial": 1 or 0, "business": 1 or 0, "esg": 1 or 0, "ai": 1 or 0, "routine": 1 or 0}```
```

### Panel B: Prompt Used to Identify Voting-related Tweets

"I am analyzing firms' use of social media.  
Please categorize each tweet based on the following criteria:

1. Voting/Meeting Related ("voting\_meeting")
  - `1` if the tweet mentions investor/shareholder voting, proxy voting, or shareholder meetings (e.g., AGM, special meetings), `0` otherwise.
  - Exclude tweets about general industry conferences, academic meetings, or non-corporate events.
2. Explicit Call for Investors to Vote (Only if "voting\_meeting" = 1)
  - "encourage\_vote": 1 if the tweet urges investors to take action (e.g., submit a vote, return a proxy, contact a broker).

**Financial Tweets**: "{tweets}"

Return the following JSON format:

```
```json
{"voting_meeting": 1 or 0, "encourage_vote": 1 or 0}```
```

Online Appendix OA2

This table shows the list of meme stocks from previous studies and the website ranking.

Meme Stocks	Source
GME, TRLY, AMC, NVDA, BB, NOK, PEP, AMZN, AAPL, INTC, GOOG, META, TSLA, NFLX, SBUX, KOSS, CSCO, CMCSA, COST, AMGN, MSFT, QCOM, DJT	“A social media alert system for meme stocks” (Gianstefani, et al., 2025)
AAPL, AMC, AMD, AMZN, BA, BBBY, BYND, CLF, CLNE, CLOV, DIS, GME, MSFT, MU, NKLA, PLTR, PLUG, RKT, SDC, SNAP, SOFI, SPCE, TRLY, TSLA, WISH, WKHS, ZM	“Meme Stocks and Individual Investor Trading: Evidence from Reddit Outages” (XU, et al., 2025)
ALB, AMC, AAL, BB, BTBT, BYND, CGC, CCL, CELH, DKNG, EYEN, GME, KRUS, MARA, NKLA, NVAX, NTR, PANW, PARA, PHAT, STX, SIRI, SNDL, SAVE, SBUX, SPWR, TRLY, WKHS	“Stock Market Hype: An Empirical Investigation of the Impact of Overconfidence on Meme Stock Valuation” (Ahadzie, et al., 2025)
SOUN, RIVN, GME, AMC, SOFI, ENVX, ANVS, LUNR, EOSE, SMR, NVAX, NKLA, ACHR, RKLK, MARA, LGVN, LCID, CHPT, SAVE, BB, MAXN, UPST, SNDL, EYEN, CELH, PANW, CHWY, TRLY, CGC, SIRI, AAL, ALB, PHAT, MBLY, DKNG, PEGY, BYND, WKHS, DNA, KRUS, PARA, NTR, DTF, STX, CCL, CCJ, BTBT, SPWR, SBUX	“Meme Stock Rankings” (Quiver, 2025)