THE MEME STOCK FRENZY: ORIGINS AND IMPLICATIONS

DHRUV AGGARWAL,* ALBERT H. CHOI† & YOON-HO ALEX LEE‡

ABSTRACT

In 2021, several publicly traded companies, such as GameStop, Bed Bath & Beyond, and AMC, became "meme stocks," experiencing a sharp rise in their stock prices through a dramatic influx of retail investors into their shareholder base. Analyses of the meme stock surge and its implications for corporate governance have focused on the idiosyncratic creation of online communities around particular stocks during the COVID-19 pandemic. In this Article, we argue that the emergence of meme stocks is part of longer-running and more structural digital transformations in trading, investing, and governance. On the trading front, the abolition of commissions by major online brokerages in 2019 reduced entry (and exit) costs for retail investors. Zero-commission trading represents a modification of the payment for order flow ("PFOF") system, which is itself a product of technological disruptions in the financial markets in the 1980s. With respect to investing, the emergence of social media communication amplified retail

* Assistant Professor of Law, Northwestern Pritzker School of Law.

† Paul G. Kauper Professor of Law, University of Michigan Law School and European Corporate Governance Institute ("ECGI").

‡ Professor of Law, Northwestern Pritzker School of Law.

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Comments are welcome to dhruv.aggarwal@law.northwestern.edu, alchoi@umich.edu, and alex.lee@law.northwestern.edu. All errors are ours.

investors' pre-existing dependence on social networks to make decisions regarding stock investing and portfolio construction. It also allowed them to coordinate their investing activities and affect the market price while expressing their non-financial interests. These structural changes imply that meme trading is here to stay. While some startups have attempted to bring the shareholder experience into the digital age and help retail investors participate in governance, these developments have been relatively modest. After tracing the meme stock phenomenon, we sketch a research agenda for law and finance scholars to explore the concrete effects of meme investing on corporate governance. First, we ask whether retail traders can transform into retail shareholders actively engaged in corporate governance. Second, we propose a broader metric for "meme-ness": future scholarship can use modern advances in data science to better identify which companies are vulnerable to meme surges and social media-driven investing unrelated to their financial fundamentals.

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INTRODUCTION

In the midst of the COVID-19 pandemic, the U.S. stock market experienced a rather unusual phenomenon. Several publicly traded companies, such as GameStop, Bed Bath & Beyond, and AMC, became "meme stocks" and experienced a dramatic influx of retail investors into their shareholder base.[1] A large number of retail investors responded to and engaged in a coordinated buying campaign, and over a short period of time, the stock prices surged to stratospheric levels.[2] Some of those companies, notably AMC and GameStop, took advantage of the surge and were able to raise a large amount of capital at elevated stock prices, thereby substantially improving their liquidity and solvency positions.[3] While the stocks are no longer trading at such historic highs, prices are still (much) higher than the pre-surge levels, and many retail shareholders are staying "loyal" to the companies.[4]

The "meme surge" phenomenon, particularly the dramatic shift in shareholder base away from institutional ownership, presents a unique opportunity for analysts and scholars to (re)evaluate the current understanding of corporate finance and governance. To date, the observers of the meme stock surge and its implications for corporate governance have mostly focused on the idiosyncratic creation of online communities around individual stocks during the COVID-19 pandemic.[5] The goal of this Article is to take a broader and longer-term view of the technological developments undergirding the meme surge. In so doing, we also sketch out a research agenda for scholars studying this topic.

We argue, in particular, that the emergence of meme stocks is part of longer-running and more systemic digital transformations in trading, investing, and governance.[6] On the trading front, major online brokerages suddenly abolished commissions in 2019. This change echoed the business

1. *See* Maggie Fitzgerald, *Bed Bath & Beyond, AMC Rally with GameStop as Little Investors Squeeze Hedge Funds in More Stocks*, CNBC.COM (Jan. 25, 2021), https://www.cnbc.com/2021/01/25/bed-bath-beyond-amc-rally-wjoin-gamestop-in-rally-as-trend-of-retail-investors-squeezing-hedge-funds-spreads.html [https://perma.cc/EVX9-52FA].

2. *See id.*

3. *See infra* Section II.B.

4. *See, e.g.*, Myles Udland, *Bed Bath & Beyond, GameStop, AMC All Surge as Meme Stock Mania Makes a Comeback*, YAHOO! FINANCE (Aug. 8, 2022), https://finance.yahoo.com/news/meme-stock-mania-august-8-2022-143753607.html [https://perma.cc/Zy4P-MTXQ].

5. *See, e.g.*, Brett Holzhauer, *It's Been Two Years Since the Meme Stock Was Born. Here's What We've Learned.*, M1 BLOG (Mar. 14, 2023), https://m1.com/blog/two-years-since-the-meme-stock-was-born [https://perma.cc/7RUR-JQQG] ("Many everyday Americans, flush with Covid stimulus cash and quarantine-induced boredom, opened up their investment apps and, one tap at a time, banded together to nearly take down hedge funds.").

6. *See infra* Part I.

model of the popular retail trading app Robinhood, which had been growing its market share by not charging trading commissions. The abolition of commissions reduced (or eliminated) entry (and exit) costs and thereby encouraged greater retail investor participation in the stock market.[7] Incidentally, zero-commission trading represents a modification of the payment for order flow ("PFOF") system, which is itself a product of technological disruptions in the financial markets from the 1980s.[8] With respect to investing, the growth of social media communication amplified retail investors' pre-existing dependence on social networks to make decisions regarding stock investing and portfolio construction.[9] These structural changes imply that the stock market is likely to experience meme trading and meme surges on an ongoing basis. Finally, while some startups have attempted to bring the shareholder experience into the digital age and help retail investors participate in governance, so far, these developments have been relatively modest.[10]

After examining the background technological developments—that we believe meaningfully contributed to the meme surge phenomenon—we sketch a research agenda for law and finance scholars to explore the concrete effects of meme investing on corporate governance outcomes. First, we ask whether retail *traders* can transform into retail *shareholders* actively engaged in corporate governance. Was the meme surge experience a social phenomenon limited to trading markets, or could it translate into a broader signal of engagement by retail shareholders? Some legal scholars have predicted that we will see more active retail shareholder engagement in governance issues, in terms of either traditional (bringing, or voting on, proposals) or contemporary (environmental, social, and governance ("ESG") performance) dimensions.[11] At least in theory, one could argue that those retail investors who remain as shareholders after the surge would care about firm governance and performance and more actively exercise their rights as shareholders. While the jury is still out on the longer-term effect of meme-driven market entrants, to the extent that the meme surge event was driven mostly by coordinated trading rather than coordinated voting, it remains uncertain whether such an explosion of "retail governance" would, in fact, occur. Second, another puzzle presented by the meme surge was why some companies experienced the retail investor influx while other (similarly situated) companies did not. To address this puzzle, we explore a broader

7. *See infra* Section I.A.
8. *See infra* Section I.A.
9. *See infra* Section I.B.
10. *See infra* Section I.C.
11. *See generally infra* Section II.D (describing the literature on the potentially transformative impact of meme trading).

metric for "meme-ness," and suggest that future scholarship should use modern advances in data science to better identify which companies are vulnerable to meme surges and social media-driven investing unrelated to their financial fundamentals.[12]

The Article is organized as follows. In Part I, we take a historical approach to sketch out the emergence and popularization of zero-commission trading by tying it back to the adoption of the PFOF protocol in the 1980s, under which broker-dealers get "rebates" from wholesalers (or "internalizers") for delivering orders from their clients. In many ways, the elimination of trading commission for the retail shareholders, leaving broker-dealers to rely solely on PFOFs, was a logical evolutionary step from the PFOF system of the 1980s. In Part II, we take a closer look at the meme surge phenomenon, tying together several different factors: zero-commission trading, coordination through social media, and predatory trading. We also briefly discuss the implications of meme trading for securities regulation and consider the recent arguments about the shift towards retail shareholder base and possible democratization of corporate governance. Part III lays out a future research agenda, both with respect to coordinated voting and governance engagement and identification of meme stocks.

I. DIGITAL TRANSFORMATIONS IN TRADING, INVESTING, AND GOVERNANCE

A. DIGITAL TRANSFORMATION IN TRADING—PAYMENT FOR ORDER FLOW, 1980S AND 2010S

In important ways, the meme stock revolution can be traced back to an unlikely digital transformation: Bernie Madoff's promotion of the PFOF system in the 1980s. In 1983, following a congressional mandate, the Securities and Exchange Commission ("SEC") required stock exchanges, like the New York Stock Exchange ("NYSE"), to publicly broadcast trading data in real time. This development marked a step toward bona fide "democratization" of investing: the market-making process of matching buy and sell orders on the NYSE was no longer restricted to its own specialists. Using the NYSE's broadcasted quotes, market-makers in other venues, such as Madoff's firm in the National Association of Securities Dealers Automated Quotations ("Nasdaq"), could execute trades on the NYSE at the best prices.[13]

12. *See infra* Section IV.B.

13. *See* Robert H. Battalio & Tim Loughran, *Does Payment For Order Flow To Your Broker Help Or Hurt You?*, 80 J. BUS. ETHICS 37, 37 (2008); *see also* Kevin Travers, *Payment for Order Flow: Bernie*

PFOF is a conceptually straightforward system. A brokerage agrees to send its clients' orders to another firm, often an internalizer or a wholesaler—such as Citadel and KCG Americas—which is a trading venue that matches buy orders with sell orders, in return for a small fee per transaction. After executing the order, the trading venue returns the payoff to the broker, which in turn transmits it to the client.[14] Note that the broker is making money in two ways: from the transaction fee it collects from its client and from the trading venue. While the per-transaction fees paid by the trading venues under the PFOF system is a fraction of a dollar, the aggregate revenue accrued by brokers across thousands or millions of daily transactions can be economically significant. The trading venue, on the other hand, profits off the bid-ask spread and is guaranteed a higher volume of transactions because of its contractual arrangements with brokers.[15] Madoff's investment firm pioneered PFOF and acted as a trading venue in the 1980s, paying brokers one cent per share transmitted.[16] This was a significant departure from the pre-PFOF system, in which the NYSE *charged* brokers between one and three cents to execute orders.[17]

From its beginnings in the 1980s, the PFOF ecosystem has revolved around the retail investor. Notably, Madoff would only perform market-making activities for orders of 5,000 or fewer shares[18]—on the understanding that these were uninformed retail investors who needed liquidity rather than informed professional traders who had superior

Madoff's Golden Goose, FINTECH NEXUS (Oct. 4, 2021), https://news.fintechnexus.com/payment-for-order-flow-bernie-madoffs-golden-goose [https://perma.cc/NMG9-JTGE]; Allen Ferrell, *A Proposal for Solving the "Payment for Order Flow" Problem*, 74 S. CAL. L. REV. 1027, 1028 (2001) (arguing that payment for order flow creates an inefficient nonprice competition between securities markets and permitting brokers to credit investors' orders with the national best bid or offer, regardless of price improvement, will ensure efficient allocation of orders).

14. *See* Nick Burgess, *The World of Payment for Order Flow* (Dec. 13, 2022), https://www.makingamillennialmillionaire.com/post/the-world-of-payment-for-order-flow [https://perma.cc/JK6Y-3P8Y]; *see also* Robert Battalio, Shane A. Corwin & Robert Jennings, *Can Brokers Have It All? On the Relation between Make-Take Fees and Limit Order Execution Quality*, 71 J. FIN. 2193, 2215 (2016) (empirically documenting the negative correlation between the quality of the order execution and the amount of rebates in the pay for order flow system). *See generally* Merritt B. Fox, Lawrence R. Glosten & Gabriel V. Rauterberg, *The New Stock Market: Sense and Nonsense*, 65 DUKE L.J. 191 (2015) (discussing various current issues in the securities markets, including the payment for order flow system, among others, and arguing that the rebates should be credited to the investors).

15. *See* Battalio & Loughran, *supra* note 13, at 38–39. There is an important debate as to whether the PFOF arrangements are detrimental to the investors. Battalio & Loughran, for instance, demonstrates that as the amount of rebate gets higher the execution quality of the orders gets worse. *See* Battalio et al., *supra* note 14, at 2231.

16. *See* Burgess, *supra* note 14 ("The market maker, in return for this exclusivity, pays the brokerage fractions of a cent for each share they buy or sell."); *see also* Battalio & Loughran, *supra* note 13, at 38 (describing how Bernard L. Madoff Investment Securities (Madoff) offered to pay brokers $0.01 per share to execute retail market).

17. *See* Battalio & Loughran, *supra* note 13, at 38.

18. *See id.*

information about the "true" value of the stock. Moreover, Madoff would avoid brokerages where a high share of traders was informed in order to avoid the economic phenomenon of "adverse selection."[19] Adverse selection is a widely-studied phenomenon wherein actors participate in economic activity because they possess "hidden knowledge."[20] Applied to the PFOF context, a trading venue's (such as Citadel) expected returns decrease if the investors on the other side are informed about the true value of the stock.[21] Therefore, PFOF's origins are inextricably linked to the notion that retail investors are relatively uninformed or unsophisticated, and primarily driven by liquidity concerns.

At a basic level, meme trading is a consequence of the classic PFOF model on steroids. In the mid-2010s, Robinhood pioneered the zero-commission model, charging users no commissions for placing trade orders.[22] This zero-commission model was the driving force behind Robinhood's emergence as the app of choice for young retail investors, who could now access the markets costlessly.[23] While the broker in the classic PFOF model was making money from two channels (first, the commission from the client, and second, the payment from the market-maker), Robinhood's disruptive business model now focused exclusively on raising revenue through the market-maker's payments for order flow. Robinhood's hope was that the abolition of commissions would raise volumes from retail investors enough to compensate for revenues now solely depending on payments from its market-maker, Citadel.[24]

Robinhood was a maverick—the new entrant whose unique business model allowed it to steal market share from more established online brokerages. Due in part to its innovation, Robinhood was able to grow relatively quickly. Older and established brokerage firms eventually responded to Robinhood's challenge. On October 1, 2019, the major online

19. *See id.* at 39.

20. *See generally* Bruce C. Greenwald, *Adverse Selection in the Labour Market*, 53 REV. ECON. STUD. 325 (1986) (explaining the concept of adverse selection with an application to the labor market).

21. Some of the losses associated with adverse selection can be stemmed using the bid-ask spread. *See* Battalio & Loughran, *supra* note 13, at 39.

22. *See, e.g.*, Josh Constine, *Robinhood App Will Offer Zero-Commission Stock Trades Thanks to $3M Seed from Index and A16Z*, TECHCRUNCH (Dec. 18, 2013, 6:00 AM), https://techcrunch.com/2013/12/18/zero-commission-stock-trading-robinhood [https://perma.cc/3VPS-UTVA].

23. *See* Paul R. La Monica, *E-Trade Cuts Commissions to Zero Along with Rest of Brokerage Industry*, CNN (Oct. 3, 2019), https://www.cnn.com/2019/10/02/investing/etrade-zero-commissions [https://perma.cc/2792-5GFK].

24. *See* John Detrixhe, *How Ponzi Mastermind Bernie Madoff Enabled the US Retail Trading Boom*, QUARTZ (Aug. 30, 2020), https://qz.com/1894874/how-bernie-madoff-enabled-the-us-retail-trading-boom [https://perma.cc/P3PQ-CYPF] (explaining Madoff's role in introducing the concept of PFOF, and Robinhood's modification of his business model); *see also* Battalio & Loughran, *supra* note 13, at 41 (describing how PFOF generates profits).

brokerages Charles Schwab and TD Ameritrade eliminated commissions for all their customers.[25] These platforms were quickly followed by another major online brokerage, E-Trade. Collectively, these entities had dominated the online brokerage business before the emergence of Robinhood.[26]

The significance of this event cannot be overstated. The advent of zero-commission trading has been widely cited as a root factor in the explosion in retail investing activity.[27] Indeed, one of the leading financial economics explanations for individual non-participation in the stock market is that there is a cost of investing (including the brokerage commissions) that deters the less wealthy from participating in the market.[28] By reducing the entry cost of trading (for example, brokerage commissions), the sudden 2019 decision by the major brokerages increased retail investor entry into the stock market.[29]

Figure 1, which is replicated from our companion paper,[30] validates the importance of the abolition of commissions—specifically, for turnover in companies that experiences meme surges. The bar graphs show the average daily turnovers, that is, the percentage of outstanding shares that are traded, separately for companies that experienced meme surges (later) and other firms. The companies include AMC, Bed Bath & Beyond, Blackberry,

25. *See, e.g.*, Paul R. La Monica, *Charles Schwab and TD Ameritrade Will Eliminate Commissions for Stock and ETF Trading. The Online Broker Wars Are in Full Swing*, CNN (Oct. 1, 2019), https://www.cnn.com/2019/10/01/investing/charles-schwab-eliminates-commissions/index.html [https://perma.cc/S6FN-D5HH].

26. Share prices of Charles Schwab, TD Ameritrade, and E-Trade experienced a significant loss in response to Charles Schwab's zero commission announcement. *See* Lisa Beilfuss & Alexander Osipovich, *The Race to Zero Commissions*, WALL ST. J. (Oct. 5, 2019, 5:30 AM), www.wsj.com/articles/the-race-to-zero-commissions-11570267802 [https://perma.cc/8SFL-B722]. Experts termed the move to zero commissions "inevitable" after Charles Schwab and TD Ameritrade's decision on October 1, 2019. *See id.*; *see also Past CFO Commentary*, CHARLES SCHWAB (Oct. 1, 2019), www.aboutschwab.com/cfo-commentary/oct-2019 [https://perma.cc/9ZVV-NNU6] (announcing Charles Schwab's decision to drop trading commissions).

27. *See, e.g.*, Sayan Chaudhry & Chinmay Kulkarni, Design Patterns of Investing Apps and Their Effects on Investing Behaviors, Designing Interactive Systems Conference 778 (2021) ("For instance, absence of commissions for each trade in most popular investing apps can encourage more people to trade more frequently.").

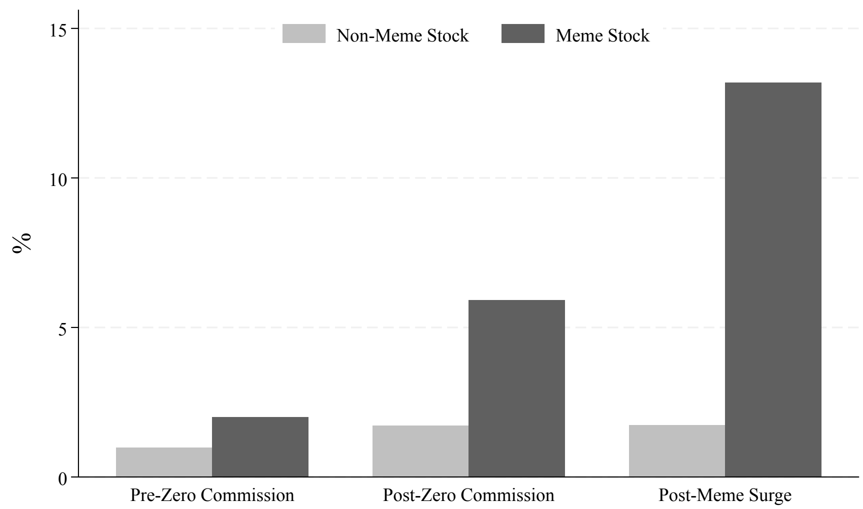
28. *See* Joseph Briggs, David Cesarini, Erik Lindqvist & Robert Östling, *Windfall Gains and Stock Market Participation*, 139 J. FIN. ECON. 57, 57–58 (2021); *see also* Annette Vissing-Jorgensen, *Towards an Explanation of Household Portfolio Choice Heterogeneity: Nonfinancial Income and Participation Cost Structures* 1 (Nat'l Bureau of Econ. Rsch., Working Paper No. 8884, 2002), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=307121 [https://perma.cc/8XPC-LY7G] (finding that fixed entry costs can explain why low-income individuals do not invest in the stock market).

29. *See* Maggie Fitzgerald, *Retail Investors Continue to Jump into the Stock Market After GameStop Mania*, CNBC (Mar. 10, 2021, 1:59 PM), https://www.cnbc.com/2021/03/10/retail-investor-ranks-in-the-stock-market-continue-to-surge.html [https://perma.cc/48Y7-ELZG] ("Retail trading has been accelerating since the industrywide decision to drop commissions in the fall of 2019.").

30. Dhruv Aggarwal, Albert H. Choi & Yoon-Ho Alex Lee, *Meme Corporate Governance*, 97 S. CAL. L. REV. (forthcoming 2024) (manuscript at 26).

Express, Inc., GameStop, Koss, Robinhood, and Vinco Ventures. They are identified based on Factiva and internet searches, as well as a survey of the nascent literature on meme stocks.[31] The data for share turnover comes from the Center for Research in Stock Prices ("CRSP"). As Figure 1 indicates, while these firms had always seen a larger proportion of their outstanding shares traded, they saw a massive increase in turnover both after the abolition of commissions in October 2019 and the surge in 2021.

FIGURE 1. Average Turnover for Meme Stocks and Other Firms



Notes: This figure shows a graph of the mean share turnover (shares traded each day as a percentage of total outstanding common stock) according to CRSP data. The data is presented separately for meme and non-meme stocks. Meme stocks include AMC, Bed Bath & Beyond, Blackberry, Express, Inc., GameStop, Koss, Robinhood, and Vinco Ventures. "Pre-Zero Commission" refers to the period from January 2015 to September 2019, "Post-Zero Commission" refers to the period from September 2019 to December 2020, and "Post-Meme Surge" refers to the period from January 2021 to December 2022.

Put differently, viewed from the perspective of the longer institutional history of PFOF, the retail investor surge in companies like AMC and GameStop was less like a revolutionary break from history and more akin to the episodic technology-driven upheavals in financial markets. Like the live transmission of NYSE quotes and evolution of the classic PFOF model in the 1980s, the emergence of Robinhood and zero-commission trading in

31. *See generally* Michele Costola, Matteo Iacopini & Carlo R.M.A. Santagiustina, *On the "Mementum" of Meme Stocks*, 207 ECON. LETTERS (2021).

recent years allowed retail investors to participate in financial markets. While retail investor coordination through social media websites is clearly a novel contributing feature of the meme phenomenon, the longstanding role of digital disruptions and the PFOF model cannot be ignored.

B. DIGITAL TRANSFORMATION IN INVESTING—REDDIT AND R/WALLSTREETBETS

Meanwhile, the online retail investing world was going through its own set of transformations. Social networks are central to the behavior and impact of retail investors. Inexperienced retail investors frequently turn to friends and family members for investing advice.[32] Financial economists, for instance, have found that retail investors' decisions on investing in the stock market and constructing their portfolios are highly correlated with those of their neighbors.[33] Interestingly, this research is consistent with braggartry being a key determinant of retail investors' social behavior. It has been documented that when retail brokerages partnered with social networking platforms, investors became twice as likely to sell profitable assets and hold on to lossmaking stocks.[34] This is likely because of the "disposition effect"—retail investors wanted their peers to admire their stock-picking prowess, and not admit their mistakes.[35]

Such bravado continues to characterize retail investors' participation in online communities dedicated to meme stocks. The explosion in retail investor interest in meme stocks was propelled by posts on the Reddit group "r/Wallstreetbets."[36] Posters engaged in bombastic exchanges, claiming to have made spectacular returns making bets on stocks that seems unmoored

32. *See* Theresa Kuchler & Johannes Stroebel, *Social Finance*, 13 ANN. REV. FIN. ECON. 37, 46–47 (2021).

33. *See* Cary Frydman, *Relative Wealth Concerns in Portfolio Choice: Neural and Behavioral Evidence* (Feb. 7, 2015) (working paper) (on file with author), https://ssrn.com/abstract=2561083 [https://perma.cc/KFL7-PAQB]; *see also* Jeffrey R. Brown, Zoran Ivković, Paul A. Smith & Scott Weisbenner, *Neighbors Matter: Causal Community Effects and Stock Market Participation*, 63 J. FIN. 1509, 1530 (2008) (finding that a person's stock market participation depends on that of others in their community); Harrison Hong, Jeffrey D. Kubik & Jeremy C. Stein, *Social Interaction and Stock-Market Participation*, 59 J. FIN. 137, 137 ("[A]ny given 'social' investor finds the market more attractive when more of his peers participate."); Kuchler & Stroebel, *supra* note 32, at 45 (alteration in original) ("[A]n investment version of [fear-of-missing-out] might drive individuals to invest when they see their friends doing well in the stock market.").

34. *See* Rawley Z. Heimer, *Peer Pressure: Social Interaction and the Disposition Effect*, 29 REV. FIN. STUD. 3177, 3177 (2016) ("Access to the social network nearly doubles the magnitude of a trader's disposition effect.").

35. *See id.*; *see also* Kuchler & Stroebel, *supra* note 32, at 45–46 (summarizing peer effects in retail investor behavior).

36. *See* Chris Stokel-Walker, *GameStop: The Oral History of r/WallStreetBets' Meme Stock Bubble*, GQ (Mar. 22, 2021), https://www.gq-magazine.co.uk/lifestyle/article/gamestop-stock-oral-history [https://perma.cc/8PQ7-PA3E].

from realistic assessments of the companies' business models or their fundamentals.[37] The Reddit board attracted thousands of new followers drawn to the prospect of sharing in the benefits from pushing up the prices of stocks like AMC and GameStop.[38]

Another important aspect of the digital transformation in the investing community is that it allowed retail investors to coordinate their *expressive* participation in the financial markets. Beyond boasting about eye-popping returns, users of the r/Wallstreetbets board were able to express their idiosyncratic likes and dislikes about the business model or customer services of the video game or movie theater companies.[39] The design of investing apps such as Robinhood catered to this expressive function of investing, with flashy graphics and leaderboards allowing meme traders to derive non-pecuniary benefits from investing.[40] Scholars in other areas of the law have long recognized that individual actions are infused with social meaning, defined with reference to social norms.[41] Social media platforms like Reddit thus represent a digital disruption that has allowed retail investors to exchange notes not just about their trading exploits, but also their expressive preferences about firms in a group setting.

A distinction ought to be made between digital transformations in trading versus those in investing. In the former, digital transformations gradually brought about changes in the business models of brokerage firms, thus providing the general public with greater access to capital markets. In the latter, digital transformations changed the social meaning of investing for individual investors. Investing is no longer just a form of rationally deferred consumption; it has become a social activity through which to bond with others and to express one's preference and identity.

37. *See, e.g.*, Mallika Mitra, *Wall Street Bets and GameStop: How the Reddit Group Can Make a Stock Soar*, MONEY (Jan. 27, 2021), https://money.com/reddit-wallstreetbets-stock-gamestop [https://perma.cc/Z3FK-ZR9Q] (discussing how Reddit posters at r/WallStreetBets often brag about making spectacular returns).

38. *See* Steven Asarch, *The History of WallStreetBets, the Reddit Group that Upended the Stock Market with a Campaign to Boost GameStop*, INSIDER (Jan. 28, 2021, 12:36 PM), https://www.insider.com/wallstreetbets-reddit-history-gme-gamestop-stock-dow-futures-yolo-2021-1 [https://perma.cc/KCW6-SAFX].

39. *See generally AMC Stock Breakdown: Is This Meme Stock a Financial Winner?*, FORBES (Nov. 24, 2022, 10:30 AM), https://www.forbes.com/sites/qai/2022/11/24/amc-stock-breakdown-is-this-meme-stock-a-financial-winner [https://perma.cc/ECE7-7man].

40. *See* James Fallows Tierney, *Investment Games*, 72 DUKE L.J. 353 (2022). Professor Tierney calls this an example of the "gamification" of contemporary investing.

41. *See, e.g.*, Cass R. Sunstein, *On the Expressive Function of Law*, 144 U. PA. L. REV. 2021, 2022 (1996).

C. DIGITAL TRANSFORMATION IN GOVERNANCE—CORPORATE FORUM TECHNOLOGY

Digital transformations have also shaped how management and shareholders engage in governance matters. To begin with, the onset of the COVID-19 pandemic has accelerated the trend toward allowing virtual shareholder meetings.[42] A recent study found that many companies held their meetings exclusively online in 2020–21 due to the stay-at-home orders.[43] Forty-four states and the District of Columbia already permitted companies to hold their annual meetings virtually as of 2020,[44] but individual firms had been reluctant to allow online participation before the pandemic. Shareholder voting and engagement increased notably for firms that switched to online meetings.[45]

Historically, retail shareholders' propensity to cast their ballots in annual meetings has been low. According to one study, while retail domestic investors own approximately 26% (on average) of the outstanding shares of public companies,[46] they only account for 11% of voted shares because of their low turnout. In the aggregate, retail shareholders tend to vote, on average, only 32% of their own shares.[47] The contrast between retail investors and institutional investors in terms of corporate voting is stark: according to a proxy report, retail investors voted only 29% of their shares in 2014, while institutional investors voted 83%.[48]

42. *See, e.g.*, Varun Eknath, Tiziana Londero & Syuzanna Simonyan, *Are Virtual Meetings for Companies' Shareholders and Board Members the New Normal?*, WORLD BANK BLOGS (Jul. 26, 2021), https://blogs.worldbank.org/developmenttalk/are-virtual-meetings-companies-shareholders-and-board-members-new-normal [https://perma.cc/2TL3-2XM9] (explaining how the pandemic changed the perception regarding virtual shareholder meetings).

43. *See* Yaron Nili & Megan Wischmeier Shaner, *Virtual Annual Meetings: A Path Toward Shareholder Democracy and Stakeholder Engagement*, 63 B.C. L. REV. 123, 129 n.22 (2022).

44. *Id.* at 156.

45. *See id.* at 130 ("[W]hen Amazon decided to move its annual meeting online in May 2020, it experienced a nearly tenfold increase in participation."); *see also id*. at 161–62 ("These trends suggest that virtual meetings could promote increased shareholder engagement . . . ."); *id*. at 171–72 ("[T]he average votes for as a percentage of shares outstanding increased by 8% from 2020 to 2021 for virtual meetings, compared to only 6% for in-person meetings.").

46. Alon Brav, Matthew Cain & Jonathon Zytnick, *Retail Shareholder Participation in the Proxy Process: Monitoring, Engagement, and Voting*, 144 J. FIN. ECON. 492, 493 (2022).

47. *See id.* at 500; *see also* John C. Friess, *Board Diversity Shareholder Suits: Diverging Materiality Tests Under Rules 10B-5 and 14A-9*, 11 MICH. BUS. & ENTREPRENEURIAL L. REV. 155, 193 (2021) ("Retail investors make up approximately 25% of the average public company's shareholder base, yet, due to low turnout rates, they only account for about 10% of the votes at shareholders' meetings, following a steady decline over the past two decades.").

48. *See* BROADRIDGE & PRICEWATERHOUSECOOPERS, PROXYPULSE, 2015 PROXY SEASON PREVIEW 3 (2015), http://media.broadridge.com/documents/Broadridge-PwC-ProxyPulse-1st-Edition-2015.pdf [https://perma.cc/MY4B-KFQ3].

Multiple factors drive the low participation rate among retail investors. First, many retail shareholders may not even be aware that they have the right to vote in annual meetings. Often, they may not even receive notice of the meetings in a timely manner. Second, retail shareholders, many of whom do not have a significant stake, are busy with their daily lives and do not have incentives to spend the time or resources to understand the issues being voted on in corporate meetings. Voting can be particularly onerous when retail shareholders have a diversified portfolio and own shares in many (hundreds or even thousands of) companies. Third, because retail shareholders on average own only a tiny fraction of the outstanding shares, they will likely feel that their votes will not have an impact on the outcome.[49] Fourth, even for those interested in voting, the proposals being voted on can be complex, and retail shareholders may fear that they cannot make informed decisions in their best interest. In a similar vein, some shareholders may trust the management of the company and believe that they will act in the best interests of the shareholders, regardless of the outcome of the vote. All of these factors render retail shareholder apathy rational.

To address these concerns, a few startups have emerged, promising to harness technology to bring the shareholder experience into the twenty-first century. To this extent, there has been a noticeable increase in the development of shareholder voting apps.[50] This is due in part to the increasing popularity of mobile devices and the growing demand for convenience from investors. Shareholder voting apps are designed to make it easy for investors to vote their shares from their smartphones or tablets, without having to mail in a paper ballot, call a toll-free number, or log onto a website. Their features include: the ability to view and research company proposals; the ability to vote on company proposals; the ability to ask questions of company management; and the ability to receive timely updates on corporate news.

For example, Say Technologies is a platform recently acquired by Robinhood that allows shareholders to communicate directly with management, vote on polls, and submit questions for meetings and earnings calls, all through a smartphone app.[51] Say Technologies is currently used by

49. *See, e.g.*, Brav et al., *supra* note 46, at 500 ("[R]etail shareholders with small equity stakes are less likely to cast votes.").

50. *See, e.g.*, Andrea Vittorio, *Shareholder Apps Aim to Replace Companies' Paper Ballots*, BLOOMBERG L. (Apr. 29, 2019, 2:31 AM), https://www.bloomberglaw.com/bloomberglawnews/esg/X9CMAEI8000000?bna_news_filter=esg#jcite [https://perma.cc/2ZM6-THXZ].

51. *See* Alex Wilhelm, *Robinhood Buys Say Technologies for $140M to Improve Shareholder-Company Relations*, TECHCRUNCH (Aug. 10, 2021, 7:26 AM), https://techcrunch.com/2021/08/10/robinhood-buys-say-technologies-for-140m-to-improve-shareholder-company-relations [https://perma.cc/CWU6-EP8B].

a variety of companies, including Tesla and Chevron.[52] Other startups specifically focus on helping retail investors cast votes. Enhanced Broker Internet Platforms ("EBIPs") serve retail investors by allowing them to access proxy materials and vote on their brokers' websites.[53] Similar services are provided by Broadridge ProxyVote and eBallot—the latter being used by such companies as Apple, Amazon, and Facebook. Some apps provide more than just a platform for casting votes. For example, ProxyDemocracy goes further to inform retail investors how institutional investors plan to vote on different proposals.[54] Each of these apps is designed to reduce the cost of meaningfully participating in annual meetings for retail shareholders. From this perspective, these digital transformations can be compared to the abolition of trading commissions discussed in Section I.A.

Potentially more impactful than the development of these apps, sporadic movements have taken place among shareholders of various companies to coordinate their votes. For example, on March 20, 2021, a Wall Street Bets ("WSB") "megathread" was formed "for the purpose of discussing how to vote at the 2021 AMC Entertainment shareholders' meetings."[55] If such threads were to become more commonplace and retail shareholders were to exhibit a herding behavior in their voting patterns or coordinate in voting, corporate governance could be democratized in ways akin to trading.

II. THE RISE OF MEME TRADING: CONSEQUENCES AND IMPLICATIONS

The previous Part examined the technological developments and new business models that facilitated greater retail investing and eventually opened an era of meme trading. GameStop's meme surge from January of 2021 was just one prominent example of meme stock surges that have been taking place episodically in recent years. The *New York Times* noted that meme surges were initially attributed to "hobbyists stuck at home spending stimulus checks, crusading to topple Wall Street trading houses they felt had rigged the financial system against them,"[56] but conceded that these firms

52. Featured Companies, SAY TECHS, https://app.saytechnologies.com [https://perma.cc/E8EY-FU4F].

53. Jill E. Fisch, *Standing Voting Instructions: Empowering the Excluded Retail Investor*, 102 MINN. L. REV. 11, 36 (2017).

54. *Id.* at 37.

55. Sergio Alberto Gramitto Ricci & Christina M. Sautter, *Corporate Governance Gaming: The Collective Power of Retail Investors*, 22 NEV. L.J. 51, 78 (2021).

56. Joe Rennison & Stephen Gandel, *Meme Stocks are Back. Here's Why Wild Trading May Be Here to Stay*, N.Y. TIMES (Aug. 19, 2022), https://www.nytimes.com/2022/08/19/business/meme-stocks-bed-bath-beyond.html [https://perma.cc/7K2L-34SV].

continued to see elevated stock prices into 2022 and concluded that this could be a longer-lasting market phenomenon.[57] Drawing on previous literature, this Part considers the consequences and implications of the rise of meme trading.

A. MEME SURGES AND PREDATORY TRADING

The sudden influx of retail investors—coupled with a platform that facilitates costless transactions and an internet forum that enables communication—implies trading markets that look very different today. Previously, retail trading was thought to have little effect on stock price movements. Retail investors could not easily coordinate their trades, and as a result, their idiosyncratic trades would tend to cancel each other out.[58] Furthermore, in the presence of large institutional shareholders, including BlackRock, State Street, and Vanguard,[59] the volume of trade that originates from retail investors tends to be relatively modest, particularly for companies with a large market capitalization. With coordinated trading and meme stock surges, however, this is no longer true, at least for small- to medium-sized companies. Retail trades today can have significant price impacts for certain companies' stocks.[60] This change comes at a cost, however. Retail trades—especially expressive trades—can be emotionally driven based on the underlying companies' cultural relevance.[61] There is no indication that meme stocks prices reflect information about the companies' underlying fundamentals.

Recall how the events played out in the GameStop meme surge.[62] GameStop had been losing money and was facing a liquidity crisis.[63] The market had been predicting (as evidenced by the low stock price) that the

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57. *Id.*

58. *See, e.g.*, Sue S. Guan, *Meme Investors and Retail Risk*, 63 B.C. L. REV. 2051, 2060 (2022) ("Traditional models of price discovery deem retail investors largely unable to affect price.").

59. *See, e.g.*, Dorothy S. Lund, *Asset Managers as Regulators*, 171 U. PA. L. REV. 77, 77–78 (2022) (describing the influence of large institutional shareholders on the corporate governance of portfolio companies); Lucian Bebchuk & Scott Hirst, *The Specter of the Giant Three*, 99 B.U. L. REV. 721, 729–32 (2019) (describing the influence of large asset managers on corporate governance).

60. *See* Guan, *supra* note 58, at 2053 ("[R]etail trades are increasingly sticky and may predict future stock price movements.").

61. *See, e.g.*, Avi Salzman, *The Meme Stock Trade Is Far from Over. What Investors Need to Know.*, BARRON'S (July 12, 2021), https://www.barrons.com/articles/meme-stock-trade-far-from-over-51625875118 [https://perma.cc/BB4T-54CW] ("[T]he force behind [meme stock trading] is as much emotional and moral as financial.").

62. For a general discussion of the GameStop meme surge of January 2021, see Jill E. Fisch, *GameStop and the Reemergence of the Retail Investor*, 102 B.U. L. Rev. 1799, 1806–16 (2022).

63. *See, e.g.*, GameStop Form S-3 Registration Statement, Securities Act Registration No. 333 (Dec. 8, 2020); GameStop, Quarterly Report (Form 10-Q) (June 9, 2020); GameStop, Annual Report (Form 10-K) (Mar. 27, 2020); GameStop, Annual Report (Form 10-K) (Mar. 23, 2021); GameStop, Annual Report (Form 10-K) (Mar. 17, 2022).

company would likely file for bankruptcy and possibly be liquidated in the near future.[64] A number of hedge funds—most prominently Melvin Capital—had taken a large short position against its stock, betting that the price would drop even further.[65] In January 2021, retail investors engaged in an active "buy" campaign to dramatically push up the GameStop stock price to the stratospheric level of over $483 per share from less than $4 per share.[66] Retail investors' influx seems to have been driven in part to create a "short squeeze" against the hedge funds.[67] The end result was a large loss—and ultimate retreat—by the hedge funds.[68] Market analysts observed that meme traders used Reddit to decide on target firms that typically had a smaller number of outstanding shares, and delighted in punishing market participants that had taken short positions in the selected companies.[69]

The short squeeze experienced by the hedge funds is an example of a more general class of trading, called "predatory trading"—trading that exploits known needs of other investors who must change their positions.[70] In an influential paper, Brunnermeier and Pedersen document historical examples of trades that exhibited these patterns and develop a formal model to analyze this scheme in the context where certain large investors have a known need to *liquidate* their portfolios.[71] According to their analysis, where a large trader has a need to *sell* certain stocks, which is predicted by another large trader, this other trader can "front-run" and sell the stocks ahead, and subsequently buy them back at a lower price—after the original trader sells his stocks and further brings down the price. Under this pattern, "a trader

64. *See, e.g.*, Will Healy, *Is GameStop Headed For Bankruptcy?*, THE MOTLEY FOOL (Feb. 22, 2020, 12:35 PM), https://www.fool.com/investing/2020/02/22/is-gamestop-headed-for-bankruptcy.aspx [https://perma.cc/9HCW-W3TN] ("The fact that so many people remain bearish about GameStop despite its low market cap suggests that they believe this game retailer will go bankrupt.").

65. *See, e.g.*, Laurence Fletcher, *Hedge Fund that Bet Against GameStop Shuts Down*, FIN. TIMES (June 21, 2021), https://www.ft.com/content/397bdbe9-f257-4ca6-b600-1756804517b6 [https://perma.cc/X6QC-8PXH].

66. Fisch, *supra* note 62, at 1806.

67. Tim Hasso Daniel Müller, Matthias Pelster & Sonja Warkulat, *Who Participated in the GameStop Frenzy? Evidence from Brokerage* Accounts, 45 FIN RSCH. LETTERS, Mar. 2022, at 1, 1 ("In January 2021, the GameStop stock was the epicenter of the first case of predatory trading initiated by retail investors.").

68. *See, e.g.*, Toby Mathis, *How Much Did Hedge Funds Lose on GameStop?*, INFINITY INVESTING (Sept. 27, 2001), https://infinityinvesting.com/gamestop-hedge-fund [https://perma.cc/4QC5-4EJ6]. For a detailed exposition of how the GameStop saga unfolded in January of 2021, see, e.g., Fisch, *supra* note 62, at 1806–1816. Eventually, Melvin Capital would shut down a little more than a year later. *See also* Reuters, *Melvin Capital to Shut After Heavy Losses on Meme Stocks, Market Slump*, CNN (May 19, 2022), https://www.cnn.com/2022/05/19/investing/melvin-capital-hedge-fund-closes/index.html [https://perma.cc/GTL4-2AN4].

69. Rennison & Gandel, *supra* note 56.

70. *See generally* Markus K. Brunnermeier & Lasse Heje Pedersen, *Predatory Trading*, 60 J. FIN. 1825 (2005) (modeling "predatory trading").

71. *Id.* at 1853–54.

profits from triggering another trader's crisis, and the crisis can spill over across traders and across markets."[72] Importantly, the model assumes that the size of each strategic trade must be sufficiently large enough to have a price impact.[73]

GameStop's short squeeze was essentially the mirror image of the trading pattern analyzed by these authors: where a hedge fund's need to *buy* stocks—to cover its short position—is known, other investors, as a group, can strategically buy a significant share of the same stock to front-run the fund first and later sell those shares at a higher price after the fund eventually engages in the buy. What is notable was that the GameStop surge is the first case of predatory trading attributable to *retail investors*.[74] The digital transformations we have witnessed in trading and investing have facilitated coordinated trades among retail investors to potentially participate in predatory trading for the first time and take a collective stance against hedge funds.[75] What also seems different about the meme surge is that, unlike traditional investing and predatory trading models, the retail investors (at least a large fraction of them) who participated in the surge seem to be driven not solely by the financial returns but seem to have been motivated by non-financial considerations, such as taking a stance against Wall Street or saving a company (possibly with some sentimental attachment) from bankruptcy. At least in theory, when a sufficiently large number of investors are willing to pay more than what a firm's financials dictate, this could create a divergence between the stock price and the firm's "fundamental" value.[76]

An important question is whether the risk of short squeezes would discourage hedge funds from taking short positions on meme companies in the future despite their failing conditions. If hedge funds routinely stay away from short-selling meme stocks to avoid falling victim to meme surges, there will be a loss of price efficiency among those stocks. Of relevance, the SEC recently adopted a rule intended to increase transparency in short positions held by institutional investors.[77] The new rule would require certain institutional investment managers to report their short position data and short

72. *Id.* at 1825.

73. *See id.* at 1829.

74. Hasso et al., *supra* note 67.

75. The model also highlights the possibility of predatory trading by retail investors in the other direction as well: retail investors can front-run an institutional investor when they become aware of the institutional investor's need to sell a large number of shares.

76. *See, e.g.*, Albert H. Choi & Eric Talley, *Appraising the "Merger Price" Appraisal Rule*, 34 J.L. ECON. & ORG. 543, 552 (2018) (showing how some shareholders may have reservation values that are higher than the stock price).

77. Short Position and Short Activity Reporting by Institutional Investment Managers, Securities Act Release No. 34–98738, 88 Fed. Reg. 75100 (proposed Oct. 13, 2023).

activity data for equity securities on a monthly basis.[78] In theory, this rule could potentially worsen the risk of short squeezes—a concern that the agency's own economic analysis has acknowledged.[79] To address this concern, the SEC has decided to collect manger-specific data but release only aggregated and anonymized data to the public. The SEC believes that this arrangement "should reduce the likelihood of short squeezes" whole facilitating "improved detection of manipulative and potentially destabilizing activity."[80] It is too soon to tell how this new rule may affect the future of meme trading.

B. AT-THE-MARKET OFFERING OPPORTUNITIES

Meme surges do not affect investors alone. They have implications for meme stock companies as well. During its meme surge, GameStop took advantage of the elevated stock price and engaged in a large capital raising through a couple of stock sales—specifically, through at-the-market ("ATM") offerings.[81] An ATM offering allows an issuer to sell its stock at the prevailing market price. As a result, GameStop was able to address its dire need for liquidity. Once on the verge of running out of cash and filing for bankruptcy, GameStop was suddenly able to continue its business—thanks to its fan base that was purchasing its stock for reasons unrelated to its underlying business condition.[82] Importantly, at the time GameStop engaged in stock sales, it openly acknowledged in its prospectus that its stock price was *not* correlated with any fundamental changes in its business.[83]

Does the era of meme trading then imply an era of aggressive ATM offerings? While it is reasonable to expect most meme stock companies to raise capital during moments of meme surges, our search of the SEC's public company filings system shows that only two companies—GameStop and

78. *Id.* at 75100.

79. *Id.* at 75160 ("Publicly releasing aggregated information about large short positions may . . . increase the risk of . . . orchestrated short squeezes.") (footnote omitted).

80. *Id.*

81. *See, e.g.*, GameStop Prospectus Supplement, Securities Act Registration No. 333-251197 , at 2 (Jun. 9, 2021), https://www.sec.gov/Archives/edgar/data/1326380/000119312521186796/d192873d424b5.htm [https://perma.cc/FUA9-PP4U] ("We have previously sold an aggregate of 3,500,000 shares of our common stock for aggregate gross proceeds of approximately $556,691,221 pursuant to the Sales Agreement and the prospectus supplement filed by us on April 5, 2021.").

82. Most recently, GameStop recorded an unexpected profit. *See, e.g.*, Clark Schultz, *GameStop Soars 31% After the Retailer Records a Surprise Q4 Profit*, SEEKING ALPHA (Mar. 21, 2023, 4:16 PM), https://seekingalpha.com/news/3949687-gamestop-soars-after-recording-a-surprise-q4-profit [https://perma.cc/TSZ8-KM8C].

83. GameStop Prospectus Supplement, *supra* note 81 ("During [the time of meme surges], *we have not experienced any material changes in our financial condition or results of operations that would explain such price volatility or trading volume*.") (emphasis added).

AMC[84]—took advantage of meme surges and made offerings.

It is unclear why other meme stock companies did not similarly choose to take advantage of meme surges. One theory, advanced by the columnist Matt Levine, is that these companies were more cautious and wanted to avoid being blamed for knowingly selling shares at an inflated price.[85] However, the extent to which any of these companies would be held liable for making an opportunistic ATM offering is unclear. Securities regulation is based on the principle of full disclosure.[86] Even if stock prices are over-inflated, there is no obvious theory of liability when these companies fully acknowledge the mismatch between stock price movements and the company's underlying financial conditions. Nevertheless, the SEC may still find ways to prevent or delay certain offerings.[87]

The possibility of ATM offerings amid meme surges points to an unusual consequence of expressive investing. In the olden days, the common wisdom was that if you want to support a company, you should buy its products or services, not its stock (in the secondary market). The company does not get to enjoy any of the proceeds from the secondary market transactions of its stock. However, the combination of ATM offering mechanisms and meme surges suggest this wisdom may be obsolete: in the era of meme trading, retail investors can meaningfully express their support for the company through secondary market purchase of its stock. Their purchases can contribute to meme surges, which would offer the company an opportunity to rake in cash through an ATM offering.

84. *See* AMC Entertainment, Prospectus Supplement, Securities Act File No. 333-251805 (Jan. 25, 2021), https://www.sec.gov/Archives/edgar/data/1411579/000110465921006891/tm214013-1_424b5.htm [https://perma.cc/LE9W-4RMB]. In the case of AMC Entertainment, Inc., after the capital raising, the company attempted to increase the authorized number of common shares to engage in further equity issuance, but the amendment proposal was resisted by the stockholders and was later dropped. More recently, AMC Entertainment issued AMC Preferred Equity Units ("APEs"), with the same economic rights as common stock, using the board's authority to issue preferred stock so as to get around the charter amendment issue. *See, e.g.*, Bernard Zambonin, *AMC Preferred Equity (APE) Units: "The Market Does Not Get It,"* THE STREET (Dec. 27, 2022, 5:53 AM), https://www.thestreet.com/memestocks/amc/amc-ape-the-market-does-not-get-it [https://perma.cc/JYN9-JFBM].

85. Matt Levine, *Money Stuff: Meme Stocks Will Come With a Warning*, BLOOMBERG (Feb. 9, 2021, 12:03 PM), https://www.bloomberg.com/news/newsletters/2021-02-09/the-sec-wants-reddit-meme-stocks-to-admit-they-re-dangerous-kky96vuo [https://perma.cc/SC4C-M9G2] ("Selling overpriced stock—stock that you know is overpriced, that everyone knows is overpriced—is not in itself securities fraud. It just makes people nervous.").

86. Santa Fe Indus., Inc. v. Green, 430 U.S. 462, 476–77 (1977).

87. *See, e.g.*, Matt Levine, *The Best Fraud Is in Plain Sight*, BLOOMBERG (Jun. 22, 2020, 9:59 AM) https://www.bloomberg.com/opinion/articles/2020-06-22/the-best-fraud-is-in-plain-sight?sref [https://perma.cc/L7P2-8YAT] (discussing how the SEC's reaching out to Hertz regarding its prospectus led to Hertz' termination of its planned securities offering while in bankruptcy).

C. IMPLICATIONS FOR SECURITIES REGULATION

Beyond the implications for trading markets, meme trading has important implications for established doctrines in securities regulation. For example, Rule 10b-5 claims under the Securities and Exchange Act of 1934 represent the most common type of securities liability in the United States.[88] To establish a Rule 10b-5 cause of action, a plaintiff must demonstrate: "(1) a false statement or omission of material fact (2) made with scienter (3) upon which the plaintiff justifiably relied (4) that proximately caused the plaintiff's injury."[89] As we argue below, meme trading arguably undermines each of these four foundations of Rule 10b-5 liability. This could limit the retail investors' recourse in case of misrepresentations or fraud.[90] Furthermore, it could reduce the disciplinary effect of litigation risk in curbing managerial misconduct.[91]

With respect to the first two elements of 10b-5 liability listed above—a material misstatement or omission and the scienter requirement—the general tumult of meme trading could allow managers to represent their actions as being immaterial or innocuous. For example, AMC's CEO indulged his company's committed meme followers online.[92] He hosted them for a special movie screening, spent an hour every day reading feedback from meme traders on videos streamed on Twitter, and (allegedly) intentionally attended public Zoom meetings without his trousers on.[93] Would a securities class action litigant be able to show that the CEO had made a material misstatement in reading supportive messages from meme traders or encouraging them online? After all, the meme investors' Reddit messages and tweets were already in the public domain and should have been priced in if the market is informationally efficient.[94] Of course, a plaintiff could argue that the CEO creating hype around his stock is qualitatively different from an existing mass of anonymous Reddit posts doing so.

88. *See* Emily Strauss, *Is Everything Securities Fraud?*, 12 U.C. IRVINE L. REV. 1331, 1371 (2022).

89. Robbins v. Koger Props., 116 F.3d 1441, 1447 (11th Cir. 1997).

90. We do not engage with the literature critiquing the general efficacy of current U.S. securities regulation and its ability to compensate shareholders or deter managerial misconduct. *See, e.g.*, Roberta Romano, *Empowering Investors: A Market Approach to Securities Regulation*, 107 YALE L.J. 2359 (1998).

91. *See* Dain C. Donelson & Christopher G. Yust, *Litigation Risk and Agency Costs: Evidence from Nevada Corporate Law*, 57 J.L. & ECON. 747, 749 (2014) (using a natural experiment to show that litigation risk has a disciplining effect on managers).

92. *See* Felix Gillette & Eliza Ronalds-Hannon, *AMC's CEO Turned His $9 Billion Company into a Meme Machine*, BLOOMBERG (Aug. 17, 2022, 3:00 PM), https://www.bloomberg.com/news/features/2022-08-17/amc-amc-stock-became-a-meme-thanks-to-adam-aron-s-antics [https://perma.cc/VFT7-53MG].

93. *Id.*

94. *See* Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. FIN. 383, 383 (1970).

However, the corporate defendant would plausibly have a colorable claim that simply regurgitating the meme investors' widespread sentiments is neither a material misstatement nor one made with scienter.

On the other hand, meme surges will also complicate how the plaintiff may establish materiality in other settings. For example, if the defendant were to make a rosy but faulty announcement regarding its financials during an extremely volatile meme surge, whose movement is otherwise uncorrelated with the company's fundamentals, the plaintiff's expert may have an extremely difficult time establishing that the announcement was material based on an event study.

The unique meme investing scenario also calls into question whether securities plaintiffs can establish reliance or loss causation. As Professor Sue Guan has noted, successive waves of meme activity mean that even if a company, such as AMC, restates its earnings or corrects a misstatement, the stock reaction to the corporate misconduct may be submerged by price movement due to meme trading. This is especially true because meme companies are generally smaller firms whose stock prices can be more easily moved. Reliance is undermined because the lack of a price reaction near the company's alleged misstatement or omission could imply that traders did not buy shares in reliance on the contested managerial act. Loss causation can similarly be challenged if the defendant can convince the court that its actions did not inflate the price of shares; instead, it can argue that meme trading pushed up the stock price.[95] Meme traders and their bombastic puffery can thus serve as useful foot soldiers, insulating meme company executives from securities liability.

D. BEYOND TRADING MARKETS

If meme trading is here to stay, what can we expect from meme and other retail traders beyond trading markets? A natural question one can ask is whether retail investors participating in meme trades can bring about

95. *See* Guan, *supra* note 58, at 2100. A recent class action lawsuit illustrates the possible effect of meme trading on securities litigation. A district court judge granted Robinhood's motion to dismiss in a lawsuit brought by investors alleging that the company overstated its financial performance in filings related to its initial public offering (IPO). These investors claimed that Robinhood should have disclosed that its abnormally high number of users at the time of its IPO was driven by the meme frenzy. However, the court agreed with Robinhood that meme trading was common knowledge, and the company had not made any material misstatements or omissions. *See* Golubowski v. Robinhood Markets, Inc., No. 21-cv-09767, 2023 U.S. Dist. LEXIS 23163 (N.D. Cal. Feb. 10, 2023); Dorothy Atkins, *Meme Frenzy 'No Secret' Before Robinhood's IPO, Judge Says*, LAW360 (Nov. 21, 2023), https://www.law360.com/articles/1769089/meme-frenzy-no-secret-before-robinhood-s-ipo-judge-says [https://perma.cc/PE9V-DNQF]. While this lawsuit relates to Section 11 of the Securities Act of 1933, Robinhood's success reflects many of the defenses meme companies could raise in analogous Rule 10b-5 cases under the Securities and Exchange Act of 1934.

meaningful changes as retail shareholders. After all, the digital transformations discussed in Part I have brought down the cost of participating in trading, investing, and governance activities. The GameStop saga and the meme stock frenzy of 2021 demonstrated the power of technology to coalesce dispersed individuals who can unite to bring about an impact and provide a check on institutional players. Thus, one interpretation of these events is that future technological developments can allow dispersed individuals to overcome the cost of collective action to further their collective agenda.

One line of predictions says that increased retail access to capital markets will *democratize* finance and such retail shareholders will embed their "prosocial" preferences on corporate policies.[96] For example, Professors Sergio Alberto Gramitto Ricci and Christina Sautter observe that the new generation of investors will be more likely to pursue ESG goals rather than focusing on making a profit[97] and will engage in governance activities by exercising their shareholder rights.[98] The authors thus predict that meme traders and their activities will lead to a new paradigm for corporate governance. A similar view was echoed by Professor Jill Fisch. While focusing mostly on citizen capitalism's benefits to economic development, Fisch also notes that "[c]itizen capitalism may also enhance the voice of ordinary citizens in corporate decisions" and argues that retail investors will be able to shape shareholder power.[99] She acknowledges that while governance measures "must ultimately command the support of institutions as well . . . . [I]n issuers with significant retail ownership, the retail vote can influence the outcome of critical shareholder votes."[100]

On the other hand, there are also reasons to question the link between the distinct transformations in investing and ongoing corporate ownership. For one thing, there are significant differences between meme traders and retail shareholders in terms of their activities, goals, and execution costs. First, their bona fide activities are quite distinct: an investor's activities include information-gathering and buying and selling; a shareholder's

96. *See* Fisch, *supra* note 62, at 1841–42, 1846–47; *see also* Grammito Ricci & Sautter, *supra* note 55 at 90–95; Sergio Alberto Gramitto Ricci & Christina M. Sautter, *The Wireless Investors Movement*, U. CHI. BUS. L. REV. (Jan. 28, 2022), https://businesslawreview.uchicago.edu/online-archive/wireless-investors-movement [https://perma.cc/XXL7-X4TX] ("[Retail trading] will naturally expand into corporate-governance-based initiatives . . . .").

97. Grammito Ricci & Sautter, *supra* note 55, at 77 (arguing that wireless investors are more likely to bring distinctive values to investing and are more apt to invest pursuant to their environmental, social, and corporate governance ("ESG") values than to make a profit).

98. *Id.* at 78 ("Wireless investors will evolve from trading to engaging in corporate governance by way of exercising their governance rights deriving from the shares they hold.").

99. Fisch, *supra* note 62, at 1839.

100. *Id.* at 1840.

activities include voting, nominating director candidates, submitting proposals, or running proxy contests. Second, their goals and payoffs may also be very different: a meme trader might trade for profit motives, for the thrill of using game-like apps, or for expressive reasons. Most of these are immediately realized through the act of trading. By contrast, a retail shareholder may recognize that she has a very little chance of affecting any proposal outcomes and many of the changes may not be realized in the short run.[101]

Third, while digital transformations discussed in Part I largely reduced the *participation* costs for both meme traders' activities (trading) and shareholders' activities (voting), voting on corporate proposals still entails *information* costs (not present for pure meme trading activities) that have not been eradicated. Finally, meme trading does not take place across all companies. To date, meme surges have been limited to a relatively small set of companies with particular characteristics—such as low stock prices, low market capitalizations, high bid-ask spread, and cultural relevance.[102] Indeed, all eight meme stock companies we analyze are mid- to small-cap companies, valued under $10 billion in market capitalization (and some with a much smaller market capitalization).[103] But in general, small companies are *prima facie* less likely to attract significant shareholder activities[104] and less likely to attract shareholder proposals.[105] Meme trading has thus centered on companies whose financial fundamentals do not augur well for sustained shareholder engagement.

101. Indeed, the low probability of affecting policy while assuredly bearing the cost of exercising one's vote has long been used as an argument in public choice theory for the irrationality of voting even in democratic elections. *See also* Timothy J. Fedderson, *Rational Choice Theory and the Paradox of Not Voting*, 18 J. ECON. PERSPS. 99, 102–03 (2004). *See generally* ANTHONY DOWNS, AN ECONOMIC THEORY OF DEMOCRACY (1957) (arguing that the electorate balances expected costs and benefits when deciding whether to vote).

102. *See* Naaman Zhou, *What Is GameStop, Where Do the Memes Come in, and Who Is Winning or Losing?*, THE GUARDIAN (Jan. 28, 2021), https://www.theguardian.com/culture/2021/jan/28/what-is-gamestop-where-do-the-memes-come-in-and-who-is-winning-or-losing [https://perma.cc/VVK2-UDD4] (observing that meme stock prices were low, so they were easily accessible to the average person, and they were culturally popular).

103. The market capitalizations of meme stock companies we examine range from about $56.2 million to $9.2 billion. Their respective market capitalizations, as of January 2023, are: $9.2 billion for Robinhood, $7 billion for GameStop, $2.8 billion for AMC, $2.5 billion for BlackBerry, $300 million for Bed Bath & Beyond, $150 million for Vinco, $77 million for Express, and $56 million for Koss. By comparison, the smallest company in S&P 500 index has a market capitalization of $14.6 billion. *See* Aggarwal et al. *supra* note 30.

104. Kobi Kastiel & Yaron Nili, *The Corporate Governance Gap*, 131 YALE L.J. 782, 782 (2022). As Professors Kobi Kastiel and Yaron Nili document, in small-cap corporations, "the adoption of governance arrangements is less organized and systematic, often representing a significant departure from the norms set by larger companies." *Id.* at 787.

105. *See* Kobi Kastiel & Yaron Nili, *In Search of the "Absent" Shareholders: A New Solution to Retail Investors' Apathy*, 41 DEL. J. CORP. L. 55, 67 (2016).

For these reasons, a sudden burst of enthusiasm for meme trading may not instantly translate to one for shareholder activities, and meme surges and their impacts may remain orthogonal to shareholder activities. Given this uncertainty in the promise of meme trading, there are important research questions that remain unexplored, to which we now turn.

III. A MEME GOVERNANCE RESEARCH AGENDA

A. TRADERS AND SHAREHOLDERS

Future work in meme corporate governance should try to disentangle the extent to which sentiment-driven investors sustain their engagement when they become shareholders. The literature review from Part II makes clear that vigilance or activism looks different for investors and shareholders. Activism among retail investors may not necessarily translate to activism among retail shareholders. At the same time, particularly with respect to those retail investors who stayed as shareholders at meme stock companies long past the meme surge (and subsequent crash), one would argue that they are likely to care much more about the company's governance and long-term performance and become more active in exercising their rights as shareholders. Relatedly, work in empirical corporate finance also finds that passive mutual funds, despite being "lazy investors," directly or indirectly participate as shareholders. Increased shareholding by these institutional investors leads to greater board independence, fewer takeover defenses, and more equal voting rights.[106]

In our companion project,[107] we uncover empirical evidence that meme (and other retail) shareholders may not display the same vigor or aspirations ascribed to them by the literature focused on meme investors. Examining shareholder voting, we find that participation in the proposal process substantially *decreased* for meme stock companies, like AMC and GameStop, after the abolition of commissions in 2019 and the meme surge in 2021 compared to other companies, even when we control for firm characteristics and include year fixed effects.[108] This can be easily seen in Figure 2, reproduced from our companion project.[109] The dark lines, both solid and dotted, represent the share of non-votes at meme stock companies, on routine and non-routine matters, respectively. Meme stocks are defined as explained in Section I.A.

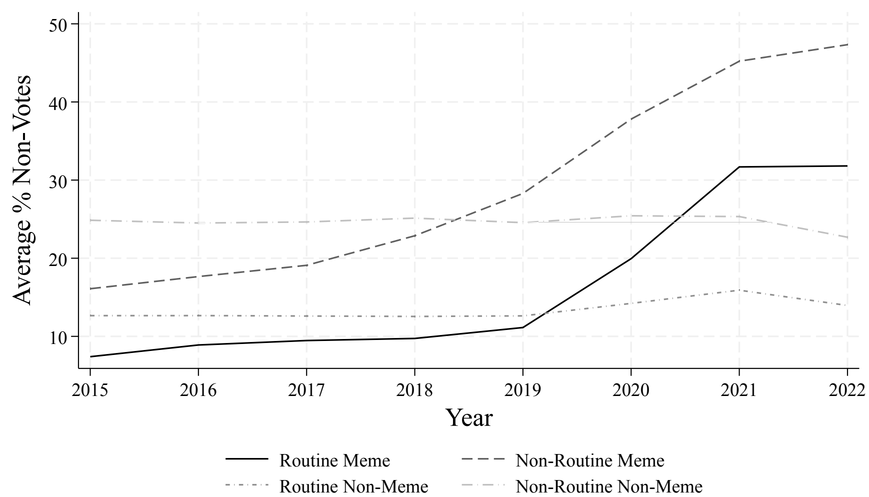
106. *See* Ian R. Appel, Todd A. Gormley & David B. Keim, *Passive Investors, Not Passive Owners*, 121 J. FIN. ECON. 111, 134 (2016) (showing how an increase in institutional ownership, due to changes in Russell stock indices, improves corporate governance and performance).

107. Aggarwal et al., *supra* note 30.

108. *See id.*

109. *Id.* at 26.

FIGURE 2. Average Share of Non-Votes for Meme and Non-Meme Stocks by Proposal Type



Note: This figure presents information on the yearly average percentage of votes that were not voted in shareholder meetings. We define the number of non-votes as Total Outstanding Shares (Votes For + Votes Against + Abstentions). We split the data by meme/non-meme stock as well as proposal type (that is, whether or not it qualifies as "routine" as defined in NYSE Rule 452).

In Figure 2, we can see that, compared to other companies, the non-vote shares increased markedly since 2018. Though it is difficult to infer that the non-votes are all coming from retail shareholders, given the low rate of vote participation among retail shareholders, it would not be unreasonable to infer that the increase in non-vote shares comes from the dramatic shift in shareholder base to retail shareholders. The increase in non-voting at meme companies is especially stark for "non-routine" proposals, for which brokers cannot vote on behalf of their clients.[110] What is perhaps surprising is the fact that the non-vote shares seem to be increasing even in 2022, a long time after the meme surge in early 2021, indicating that perhaps even those retail investors who stayed with the companies do not seem to be actively participating in firm governance. Moreover, no shareholder proposals made it onto the proxies of any of the meme companies after 2019.[111]

110. *See Rule 452. Giving Proxies by Member Organization,* N.Y. STOCK EXCH., https://nyseguide.srorules.com/rules [https://perma.cc/Y8AH-S7MS].

111. *See* Aggarwal et al., *supra* note 30, at 29–34.

With respect to indirect measures of corporate governance, we also find that meme companies' performance on ESG issues as well as board gender diversity either *declined* or remained the same compared to other firms, once again controlling for firm characteristics and time trends.[112] In short, there is so far little evidence to suggest that retail investors have left much of a mark with respect to engaging management or nudging companies in more prosocial directions.

Any work on the meme phenomenon must confront the different incentives and behavioral patterns characterizing retail investors and retail shareholders. Apart from the natural functional disjuncture caused by the purchase of shares, one could also argue that technology and digital transformation plays less of a role for shareholders as compared to investors. While we have seen apps like Robinhood disrupt the PFOF system and "gamify" investing, large chunks of the shareholder experience seem trapped in amber. Corporate voting, for example, depends on a fragile and complex custodial system that is arguably decades out of date with contemporary digital capabilities, making it hard to ensure that shareholders can actually exercise their franchise.[113] Admittedly, as described in Section I.C., some startups are trying to use technology to improve shareholder-management communication. However, until such initiatives become mainstream, the disconnect between twenty-first century investing and the twentieth century shareholding will continue to be an important line of inquiry for researchers.

B. IDENTIFYING SENTIMENT-DRIVEN STOCKS

A broader research agenda studying the effect of retail investor sentiment on corporate governance must necessarily define the core variable of interest: which companies could one credibly claim are affected by meme activity or online communities coordinated via social media? The current literature is somewhat reactive in nature, defining meme stocks based on which companies have already experienced meme surges or seen online communities formed around them.[114] One concern with such an approach could be whether it is generalizable: are these companies meme stocks solely because of the PFOF system or Reddit discussions, or is there something intrinsically unique about them? Moreover, in comparing meme stocks with other companies, we need to make sure we do not misclassify other companies driven by retail investor sentiment as non-meme companies. For example, some online commentators even called Tesla a meme stock

112. *See id*. at 36–39.

113. *See* Marcel Kahan & Edward Rock, *The Hanging Chads of Corporate Voting*, 96 GEO. L.J. 1227, 1248 (2008).

114. *See also* Costola et al., *supra* note 31, at 2. *See generally* Aggarwal et al., *supra* note 30.

because of its dedicated group of online retail followers, and its chief executive officer's high visibility on social media.[115] However, Tesla has been excluded from most academic analyses of meme stocks since it differs from AMC, GameStop, and others in crucial ways (by, for example, having a credible business model and sufficient analyst coverage that could plausibly explain the stock's success instead of online coordination by meme investors).[116]

Nevertheless, the broader point remains: there is a need for a generalizable definition of meme stocks that does not depend on factors that are idiosyncratic to those companies. This concern about endogeneity is a central feature of empirical corporate finance scholarship. For example, for many years, corporate law scholars believed that poison pills (antitakeover devices that directors can use to deter hostile takeovers) depressed firm value. However, more recent work shows that poison pills are adopted in the first place by firms that had suffered decreases in performance. Once we account for these pre-existing performance drops, there is little evidence that poison pills affect firm value.[117] Similarly, an externally valid definition of meme stocks could help us rule out other explanatory factors for changes in corporate governance at any given set of companies.[118]

While this Article does not propose any particular measure of meme stock or retail investor sentiment, we believe there are three potentially promising avenues for finding such a metric. First, researchers could look at media coverage of companies. Firms that feature more prominently in the media and elicit more "emotional" responses (whether positive or negative) may be more likely to emerge as meme stocks. New methods in the textual analysis of data could help make such an empirical measure tractable.[119] Second, one could look at how accessible companies are to resource-constrained retail investors. Meme companies, such as AMC and GameStop, were generally smaller (both in terms of market capitalization and trading

115. *See* Bernard Zambonin, *Is Tesla the "King of Meme Stocks"?*, THESTREET (Aug. 24, 2022, 7:39 AM), https://www.thestreet.com/memestocks/other-memes/is-tesla-the-king-of-meme-stocks [https://perma.cc/35WC-UUJ7].

116. *See generally* Aggarwal et al., *supra* note 30.

117. *See* Emiliano M. Catan, *The Insignificance of Clear-Day Poison Pills*, 48 J. LEGAL STUD. 1, 1 (2019).

118. Costola et al., *supra* note 31, propose such a measure based on the convergence of price surges, trading volumes, and social media interest in companies. While their approach is promising, they base this measure on the characteristics of companies already termed in the press as meme stocks. Therefore, to the extent that other companies experienced meme surges but were not seen in the media as meme stocks, this measure might be calibrated on an incomplete set of "true" meme firms.

119. *See* Matthew Gentzkow, Bryan Kelly & Matt Taddy, *Text as Data*, 57 J. ECON. LIT. 535, 535 (2019).

volume) and had lower share prices.[120] Companies with such financial features could be more likely to attract retail investors.[121] Finally, meme phenomena can also be closely tied to nostalgia. Many retail investors poured into AMC, for example, because they were millennials who fondly remembered going to the company's movie theaters and did not want to lose the chain to a COVID-19-induced bankruptcy.[122] Nostalgia, if amenable to a satisfactory definition, could be a predictor for a company's attractiveness to millennial meme investors. Whichever definition proves most fruitful, robust empirical examination of the meme stock phenomenon would help us better understand the events of 2021–22.

CONCLUSION

The meme surge of 2020–21 captured the attention of investors, firms, and regulators across the world. In this Article, we have attempted to contextualize this phenomenon within the broader trend of digital transformations in trading, investing, and corporate ownership. The modification of the payment for order flow system through the abolition of commissions radically transformed the trading process, and lowered entry costs for retail investors thinking about entering the stock market or constructing their portfolio. The investing experience was also affected by the emergence of social media platforms that complemented existing online brokerages. These platforms allowed retail investors to exchange notes on investing strategy as well as their expressive likes or dislikes for meme companies (regardless of the quality of information undergirding these preferences). Digital transformation has been most modest, however, in reshaping the ownership or shareholding experience. While some startups have tried to make it easier for shareholders to vote or communicate with managers, many of the processes surrounding shareholder participation do not harness the latest technologies.

Moving from the origins to consequences of these digital transformations, we flag three potential troubling consequences of meme trading that go unaddressed by the current system for public regulation of securities markets. First, it could increase the occurrence of predatory trading (exploiting counterparties' need to change positions), except that this time the predators could be retail investors. Second, meme surges could induce more ATM offerings by companies keenly followed on social media; firm management would want to timely raise capital while their share prices are

120. *See supra* notes 102–103 and accompanying text.

121. We can also imagine that other characteristics, such as the skewness of the stock return, can matter.

122. FORBES, *supra* note 39.

inflated. Third, the unique setup of the meme investing ecosystem could undermine a potential securities plaintiff's claim under Rule 10b-5, and undercut the role played by litigation risk in compensating defrauded investors and disciplining managerial misconduct.

Reviewing the existing literature on the promise of retail investors in corporate governance, we argue that in the absence of further technological disruption affecting the shareholding experience, it is unlikely that meme investing will lead to a "democratization" in governance. For a variety of reasons, it may be hard to transform retail *investors* into engaged retail *shareholders*. Finally, we sketch a research agenda for future work on meme stocks. First, future work must disentangle the extent to which non-traditional market participants can make an impact as traders versus as shareholders. Second, there is a need to develop a more objective metric to identify stocks moved by retail investor sentiment, rather than the somewhat idiosyncratic collection of companies that featured in the events of 2021–22.

This Article therefore cautions against viewing the meme surges as simply the product of the COVID-19 pandemic or Reddit social boards. Instead, systematic digital transformations in all facets of the financial markets have allowed retail investors to coordinate their expressive preferences for companies. Meme trading is here to stay. This retail coordination could lead to issues concerning predatory trading, ATM offerings, and reduced litigation liability that our current securities regulation system is ill-equipped to handle. While we lack evidence that these digital disruptions can transform retail investors into engaged shareholders, further research should seek to distinguish investing and shareholding activities, and better define what qualifies as a "meme stock."