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Abstract

In 2021, several publicly traded companies, such as GameStop 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 digital transformations in trading, investing, and governance. On the trading front, the sudden abolition of commissions by major online brokerages in 2019 reduced entry 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 investors' pre-existing dependence on social networks to make decisions regarding stock market entry and portfolio construction. It also allowed them to coordinate their investing activities and affect the market price while expressing their non-financial interests. Finally, 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 outcomes. First, we ask whether retail *traders* can transform into enthusiastic retail *shareholders* 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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Table of Contents

I. Introduction

In the midst of the COVID-19 pandemic, the US stock market experienced a rather unusual phenomenon. Several publicly traded companies, such as GameStop, AMC, and Bed Bath & Beyond, became "meme stocks" and experienced a dramatic influx of retail investors into their shareholder base.[1] A large number of retail investors engaged in and responded to 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 substantial amount of capital at elevated stock prices, thereby substantially improving their liquidity positions.[3] While the stocks are no longer trading at such historic highs, prices are still much higher than the pre-pandemic 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 the analysts and scholars to (re)evaluate the current understanding of corporate finance and governance. While the observers of the meme stock surge and its implications for corporate governance have 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, and also to sketch out a research agenda for scholars studying this topic.

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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), *at* 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.
2 *See id.*
3 *See infra* Part III.B.
4 *See, e.g.*, Myles Udland, Bed Bath & Beyond, *GameStop, AMC All Surge as Meme Stock Mania Makes a Comeback*, YAHOO!FINANCE.COM (Aug. 8, 2022), https://finance.yahoo.com/news/meme-stock-mania-august-8-2022-143753607.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAJdOlYEestQowxOIc6cQiRoCS2Nh5Fdluyl1bo9HU-P_sttFQoV9KSgpe_ih35jbuMinQHlsAt8KRt6pVHjb7pOaz7rbtSRrt0VeYSgTsaIhxkHloYnsGpeBgw55mZ02Jjwg-OX2EupzLGlyseaFOdNxCgx1AqhM1nYPYfH8uCLN.
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/ (" 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.").

We argue, in particular, that the emergence of meme stocks is part of longer-running digital transformations in trading, investing, and governance.[6] On the trading front, the sudden abolition of commissions by major online brokerages in 2019, initially popularized by Robinhood, reduced (or eliminated) entry costs, particularly for retail investors.[7] Importantly, 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.[8] With respect to investing, the emergence of social media communication amplified retail investors' pre-existing dependence on social networks to make decisions regarding stock market entry and portfolio construction.[9] Finally, 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.[10]

After examining the background technological developments that, we believe, substantially 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 enthusiastic retail *shareholders* 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 (ESG performance, board gender diversity) dimensions.[11] At least in theory, one could argue that particularly those retail investors who remain as shareholders after the surge would care about firm governance and performance and more

[6] *See infra* Part II.
[7] *See infra* Section II.A.
[8] *See id.*
[9] *See infra* Section II.B.
[10] *See infra* Section II.C.
[11] *See generally infra* Part IV.

actively exercise their rights as shareholders. While the jury is still out, 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 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 II, 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 III, we take a closer look at the meme surge phenomenon, tying together several different factors: the zero-commission trading protocol, coordination through social media, and predatory trading. We also briefly discuss the implications of meme trading for securities regulation doctrines and consider the recent arguments about the shift towards retail shareholder base and possible democratization of corporate governance. Part V lays out a future research agenda, both with respect to coordinated voting and governance engagement and identification of meme stocks. Part VI concludes.

[12] *See infra* Section V.B.

II. Digital Transformation in Trading, Investing, and Governance

A. Digital Transformation in Trading–Payment for Order Flow, 1980s and 2010s

In many 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 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]

PFOF is a relatively straightforward system. A brokerage agrees to send its clients' trades 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 transaction, 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

[13] *See* Robert H. Battalio & Tim Loughran, *Does Payment For Order Flow To Your Broker Help Or Hurt You?*, 80 J. BUS. ETHICS 37 (2008); Kevin Travers, *Payment for Order Flow: Bernie Madoff's Golden Goose*, FINTECH NEXUS (Oct. 4, 2021), https://news.fintechnexus.com/payment-for-order-flow-bernie-madoffs-golden-goose/; and Allen Ferrel, A Proposal for Solving the "Payment for Order Flow" Problem, 74 S. CAL L. REV. 1027 (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*, https://www.makingamillennialmillionaire.com/post/the-world-of-payment-for-order-flow; Robert Battalio et al., *Can Brokers Have It All? On the Relation between Make-Take Fees and Limit Order Execution Quality*, 71 J. FIN. 2193 (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); Merritt Fox et al., *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).

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, where 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 information about the true value of the transacted 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 sophisticated, and primarily driven by liquidity concerns.

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[15] *See id.* There is an important debate as to whether the PFOF arrangements are detrimental to the investors. Battalio et al., for instance, demonstrates that as the amount of rebate gets higher the execution quality of the orders gets worse. *See supra* note 14.

[16] *See id.* ("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) "offer[ed] to pay brokers $0.01 per share to execute retail market").

[17] *See id.*

[18] *See id.* (describing how Madoff would pay brokers to "execute retail market orders under 5,000 shares that were not submitted by professional traders at prices not worse than the NYSE's bid and ask prices").

[19] *See id.* at 39.

[20] *See generally* Bruce C. Greenwald, *Adverse Selection in the Labor 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.

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 partly 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 brokerages Charles Schwab and TD Ameritrade eliminated commissions for all their customers.[25] These platforms were quickly followed

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[22] *See, e.g.*, Josh Costine, *Robinhood App Will Offer Zero-Commission Stock Trades Thanks to $3M Seed from Index and A16Z*, TECHCRUNCH.COM (Dec. 18, 2013), *at* https://techcrunch.com/2013/12/18/zero-commission-stock-trading-robinhood/?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAG1QSiY55Q7xasWvmCrtttb1Colif3kxmccgGOMSP9aVZb3fdqyB_5IVtxaohY-kbxcu4-WsqA7171w1zXKUur_KHnW1iE2Ns52p1LOVdgi-Hq823M52-Jfw26ki3RDyMEVJXW-s13kMoazIwwj7EAen6ji8OfTOBdpyJxTv3TBe.

[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.

[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; *see also* Battalio & Loughran, *supra* note 13, at 41.

[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.COM (Oct. 1, 2019), *at* https://www.cnn.com/2019/10/01/investing/charles-schwab-eliminates-commissions/index.html.

by the other 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] Therefore, by reducing the entry cost of trading (e.g., 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 meme companies. The bar graphs show the average daily turnovers, i.e., the percentage of outstanding shares that are traded, separately for companies that experienced meme surges and other firms. The meme companies include AMC, Bed Bath and Beyond, Blackberry, Express, Inc., GameStop, Koss, Robinhood, and Vinco Venture and 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

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[26] Experts termed this move "inevitable" after Charles Schwab and TD Ameritrade's decision on October 1. *See id. See also CFO Commentary*, CHARLES SCHWAB (October 1, 2019), www.aboutschwab.com/cfo-commentary/oct-2019. 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), www.wsj.com/articles/the-race-to-zero-commissions-11570267802.

[27] *See, e.g.*, Sayan Chaudhry & Chinmay Kulkarni, *Design Patterns of Investing Apps and Their Effects on Investing Behaviors*, Designing Interactive Systems Conference 777, 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 et al., *Windfall Gains and Stock Market Participation*, 139 J. FIN. ECON. 57 (2021); Annette Vissing-Jorgensen, *Towards an Explanation of Household Portfolio Choice Heterogeneity: Nonfinancial Income and Participation Cost Structures* (Apr. 11, 2002), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=307121.

[29] *See* Maggie Fitzgerald, *Retail Investors Continue to Jump into The Stock Market After GameStop Mania*, CNBC (Mar. 10, 2021), https://www.cnbc.com/2021/03/10/retail-investor-ranks-in-the-stock-market-continue-to-surge.html ("[r]etail 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*, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4347885.

[31] *See* Michele Costola et al., *On the "Mementum" of Meme Stocks*, 207 ECON. LETTERS 110021 (2021).

(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 creation of online communities surrounding the companies in 2021.

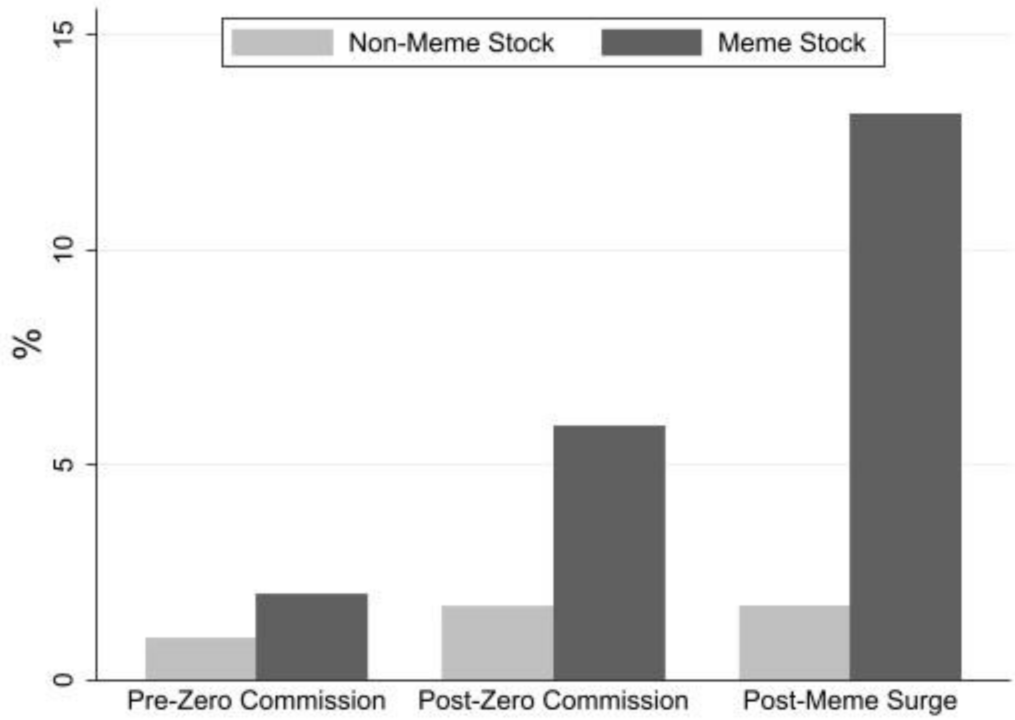

Figure 1. Average Turnover for Meme Stocks and Other Firms. This figure graphs the mean share turnover (shares traded each day as a percentage of total outstanding common stock) according to CRSP data. The data is presented separately for meme and non-meme stocks. Meme stocks include AMC, Bed Bath and Beyond, Blackberry, Express, Inc., GameStop, Koss, Robinhood, and Vinco Venture. "Pre-Zero Commission" refers to the period from 2015 to September 2019, "Post-Zero Commission" to 10/1/19-12/31/20, and "Post-Meme Surge" to 2021-22.

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 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 should not be ignored.

B. Digital Transformation in Investing–Reddit and r/Wallstreetbets

Meanwhile, the 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 have found that retail investors' decisions in entering 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. For example, 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 starting 2021 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 from realistic

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[32] *See* Theresa Kuchler & Johannes Stroebel, *Social Finance*, 13 ANN. REV. FIN. ECON. 37, 46 (2021).
[33] *See* Cary Frydman, *Relative Wealth Concerns in Portfolio Choice: Neural and Behavioral Evidence* (2015 August), available at SSRN: https://ssrn.com/abstract=2561083; Jeffrey R. Brown et al., *Neighbors Matter: Causal Community Effects and Stock Market Participation*, 63 J. FIN. 1509, 1530 (2008); Harrison Hong et al., *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."); Theresa Kuchler & Johannes Stroebel, *Social Finance*, 13 ANN. REV. FIN. ECON. 37, 45 (2021)("[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.*; s*ee also* Kuchler Stroebel, *supra* note 33, at 45-46.
[36] 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.

assessments of the companies' business models.[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 underlying the meme stocks.[39] Scholars in other areas of the law have long recognized that individual actions are infused with social meaning, defined with reference to social norms.[40] 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 identify.

[37] *See, e.g.*, Mallika Mitra, *Wall Street Bets and GameStop: How the Reddit Group Can Make a Stock Soar*, MONEY.COM (Jan. 27, 2021)(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), https://www.insider.com/wallstreetbets-reddit-history-gme-gamestop-stock-dow-futures-yolo-2021-1.
[39] *See AMC Stock Breakdown: Is This Meme Stock a Financial Winner?*, FORBES (Nov. 24, 2022), https://www.forbes.com/sites/qai/2022/11/24/amc-stock-breakdown-is-this-meme-stock-a-financial-winner.
[40] *See, e.g.*, Cass R. Sunstein, *On the Expressive Function of Law*, 144 U. PA. L. REV. 2021 (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 pandemic has accelerated the trend toward allowing virtual shareholder meetings.[41] A recent study found that many companies held their meetings exclusively online in 2020-21 due to the stay-at-home orders.[42] Forty-four states and the District of Columbia already permitted companies to hold their annual meetings virtually as of 2020,[43] 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.[44]

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,[45] they only account for 11% of voted shares because of their low turnout. In the aggregate, retail shareholders tend to vote 32% of their own shares.[46] The contrast between retail investors and institutional investors in terms of corporate voting is stark: according to a 2015 report, retail investors voted only 29% of their shares, while institutional investors voted 83%.[47]

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[41] *See, e.g.*, Varun Eknath et al., *Are Virtual Meetings for Companies' Shareholders and Board Members the New Normal?*, WORLDBANK BLOG (Jul. 26, 2021), https://blogs.worldbank.org/developmenttalk/are-virtual-meetings-companies-shareholders-and-board-members-new-normal (explaining how the pandemic changed the perception regarding virtual shareholder meetings).
[42] *See* Yaron Nili & Megan W. Shaner, *Virtual Annual Meetings: A Path Toward Shareholder Democracy and Stakeholder Engagement*, 63 B.C. L. REV. 125, 129 (2022).
[43] *See id.* at 156.
[44] *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."); *id.* at 161-62 ("These trends suggest that virtual meetings could promote increased shareholder engagement . . . ."); and *id.* at 171-72 ("…the 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.").
[45] Alon Brav et al., *Retail Shareholder Participation in the Proxy Process: Monitoring, Engagement, and Voting*, 144 J. FIN. ECON. 492, 493 (2022)
[46] *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, 183 (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.").
[47] *See* Broadridge & Pricewaterhousecoopers, 2015 proxy season preview 3 (1st ed. 2015), http://media.broadridge.com/documents/Broadridge-PwC-ProxyPulse-1st-Edition-2015.pdf.

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 notice of the meetings in a timely manner. Second, retail shareholders, many of whom do not have a significant stake, are often 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. For example, voting can be particularly onerous when retail holders own shares in multiple 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 a significant impact on the outcome of the vote.[48] 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 render retail shareholder apathy rational.

To address these concerns, a few startups have emerged promising to harness technology to being the shareholder experience into the twenty-first century. To this extent, there has been a surge in the development of shareholder voting apps.[49] 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 or call a toll-free number. 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; the ability to receive timely updates on corporate news.

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[48] *See, e.g.*, Brav et al., supra note 45, at 500 ("[R]etail shareholders with small equity stakes are less likely to cast votes.").
[49] Andrea Vittorio, *Shareholder Apps Aim to Replace Companies' Paper Ballots*, Bloomberg Law (April 29, 2019), https://www.bloomberglaw.com/bloomberglawnews/esg/X9CMAEI8000000?bna_news_filter=esg#jcite.

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 through a smartphone app.[50] Say Technologies is currently used by a variety of companies, including Tesla and Chevron.[51] 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.[52] Similar services are provided by Broadridge ProxyVote and eBallot—the latter being used by a variety of companies, including 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.[53] 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 II.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 WSB Megathread was formed "for the purpose of discussing how to vote at the 2021 AMC Entertainment shareholders' meetings."[54] If such threads were to become more commonplace and retail shareholders exhibit a herding behavior in their voting patterns, corporate governance can be democratized in ways akin to trading.

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

[51] *See* Say Technologies, *Featured Companies*, https://app.saytechnologies.com/.

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

[53] *See id.* at 25.

[54] *Id.* ("At the last minute, AMC's May 4, 2021 meeting was rescheduled to July 29, 2021, to allow 'additional time for its millions of current individual shareholders to have their voices heard and more time to cast ballots on important shareholder matters.'").

III. 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 after all 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,"[55] but conceded that these firms continued to see elevated stock prices into 2022 and concluded that this could be a longer-lasting market phenomenon.[56] 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. The reason is that retail investors could not coordinate their trades, and as a result, their idiosyncratic trades would tend to cancel each other out.[57] Furthermore, in the presence of large institutional shareholders, including BlackRock, State Street, and Vanguard,[58] the volume of trade that originates from retail investors tends to be relatively modest, particularly for companies with a large capitalization. With coordinated trading and meme stock surges, however, this is no longer true, particularly for small to medium size companies. Retail trades today can have significant price impacts,

[55] https://www.nytimes.com/2022/08/19/business/meme-stocks-bed-bath-beyond.html.
[56] *Id.*
[57] *See, e.g.*, Sue S. Guan, *Meme Investors and Retail Risk*, 63 B.C. L. REV. 2053, 2053 (2022)("Traditional models of price discovery deem retail investors largely unable to affect price.").
[58] *See, e.g.*, Dorothy Lund, *Asset Managers as Regulators*, 171 U. PENN. L. REV. 77 (2023) (describing the influence of large institutional shareholders the corporate governance of portfolio companies); Lucian Bebchuk & Scott Hirst, *Specter of the Giant Three*, 99 B.U. L. REV. 721, 729-32 (2019) (same).

at least, for certain companies' stocks.[59] This change comes at a cost, however. Retail trades—especially expressive trades—can be emotionally driven based on the underlying companies' cultural relevance.[60] 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.[61] GameStop had been losing money and was facing a liquidity crisis.[62] The market had been predicting (as evidenced by the low stock price) that the company would likely file for bankruptcy and possibly be liquidated in the near future.[63] 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.[64] 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.[65] Retail investors' influx seems to have been driven in part to create a "short squeeze" against the hedge funds.[66] The end result was a large loss—and ultimate retreat—by the hedge funds.[67] Market analysts observed that meme

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[59] *Id.* ("[R]etail trades are increasingly sticky and may predict future stock price movements.").
[60] *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 ("[T]he force behind [meme stock trading] is as much emotional and moral as financial.").
[61] For a general discussion of the GameStop meme surge of January of 2021, see Fisch, *supra* note 4, at 1806-16.
[62] *See, e.g.*, GameStop Forms S-3, 10-Q, and 10-K from 2020, 2021, and 2022.
[63] *See, e.g.*, Will Healy, *Is GameStop Headed For Bankruptcy?*, THE MOTLEY FOOL (Feb 22, 2020)(" 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."), https://www.fool.com/investing/2020/02/22/is-gamestop-headed-for-bankruptcy.aspx.
[64] *See, e.g.*, Laurence Fletcher, *Hedge Fund that Bet Against GameStop Shuts Down*, FIN. TIMES (June 22, 2021), https://www.ft.com/content/397bdbe9-f257-4ca6-b600-1756804517b6.
[65] *See, e.g.*, Fisch, *supra* note 4, at 1806.
[66] Tim Hasso et al, "Who Participated in the GameStop Frenzy?: Evidence from Brokerage Accounts," working paper, Center for Tax and Accounting Research (May 2021), *available at* https://en.wiwi.uni-paderborn.de/fileadmin/cetar/TAF_Working_Paper_Series/TAF_WP_058_HassoMuellerPelsterWarkulat2021_rev.pdf ("In January 2021, the GameStop stock was the epicenter of the first case of predatory trading initiated by retail investors.").
[67] *See, e.g.*, Toby Mathis, *How Much did Hedge Funds Lose on GameStop?*, INFINITY INVESTING (Sept. 27, 2001), https://infinityinvesting.com/gamestop-hedge-fund/. Eventually, Melvin Capital would shut down a little more than year later. *See also Melvin Capital to Shut After Heavy Losses on Meme Stocks, Market Slump*, CNN.COM (May 19, 2022), https://www.cnn.com/2022/05/19/investing/melvin-capital-hedge-fund-closes/index.html. For a detailed exposition of how the GameStop saga unfolded in January of 2021, see, e.g., Jill E. Fisch, *GameStop and the Reemergence of the Retail Investors*, 102 B.U. L. REV. 102 (2022).

traders used Reddit to decide on target firms that typically had few outstanding shares, and delighted in punishing market participants that had taken short positions in the selected companies.[68]

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.[69] In an influential paper, Brunnermeier and Pedersen document historical examples of trades that exhibited these patterns,[70] and develop a formal model to analyze this scheme in the context where certain large investors have a known need to *liquidate* their portfolios. Under the model, where a large trader has a need to *sell* certain stocks and that 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 profits from triggering another trader's crisis, and the crisis can spill over across traders and across markets."[71] Importantly, the model assumes that the size of each strategic trade must be sufficiently large enough to have a price impact.[72]

GameStop's short squeeze was essentially the mirror image of the aforementioned trading pattern: 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*.[73] The digital transformations we have witnessed in trading and investing have facilitated

[68] Joe Rennison & Stephen Gandel, *Meme Stocks Are Back. Here's Why Wild Trading May Be Here to Stay.*, NYTIMES.COM (Aug. 19, 2022), https://www.nytimes.com/2022/08/19/business/meme-stocks-bed-bath-beyond.html.

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

[70] *See id.* at 1853-54.

[71] *Id.* at 1825.

[72] *See id.* at 1829.

[73] *See* Tim Hasso et al., *Who Participated in the GameStop Frenzy? Evidence from Brokerage Accounts*, 45 FIN. RES. LETTERS 102140 ("In January 2021, the GameStop stock was the epicenter of the first case of predatory trading initiated by retail investors.").

coordinated trades among retail investors to potentially participate in predatory trading for the first time and take a collective stance against hedge funds.[74] What also seems different about the meme surge is that, unlike traditional investing 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.[75]

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 victims to meme surges, there will be a loss of price efficiency among those stocks. Of relevance, the SEC recently proposed a rule intended to increase transparency in short positions held by institutional investors.[76] The proposed rule would require certain institutional investment managers to report their short position data and short activity data for equity securities on a monthly basis.[77] In theory, this rule could potentially worsen the risk of short squeezes[78]—a concern. the agency's own economic analysis has acknowledged.[79] Nevertheless, the SEC stated that its disclosure requirement will also facilitate better

[74] 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.
[75] *See, e.g.*, Albert H. Choi and Eric Talley, *Appraising the "Merger Price" Appraisal Rule*, 34 J.L. ECON & ORG. 543 (2018) (showing how some shareholders may have reservation values that are higher than the stock price).
[76] Securities and Exchange Commission, Proposed Rule: Short Position and Short Activity Reporting by Institutional Investment Managers, 87 Fed. Reg. 14,950 (Mar. 16, 2022).
[77] *Id.* at 14,950.
[78] The SEC received a comment letter expressing such concerns. *See id.* at 14,955 n.50 (discussing a commenter letter that "stated that individual public disclosure could expose market participants to the risk of a 'short squeeze,' which may deter investors from engaging in short selling more generally").
[79] *Id.* at 14,992 ("Publicly releasing aggregated information about large short positions may . . . increase the risk of . . . short squeezes . . . . [Specifically, i]f market participants can ascertain which positions belong to only one Manager, then market participants may seek to orchestrate a short squeeze targeting that particular manager.").

detection of short squeezes, and thus, market participants may also be deterred from orchestrating a short squeeze.[80] As of this writing, the SEC has not yet adopted the rule and it remains to be seen how the rule, if adopted, 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 an at-the-market offering ("ATM offering").[81] An at-the-market offering allows an issuer to sell more of its stocks at the prevailing market price. As a result, GameStop was able to address, at least temporarily, its dire need for liquidity. Once on the verge of liquidating, GameStop was suddenly able to continue its business—thanks to its fan base that was purchasing its stocks 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,

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[80] Id. ("Mitigating this risk is the fact that . . . the activity data provided in Proposed Form SHO may allow the Commission to more quickly determine if a short squeeze occurred. . . . Increased risk of detection may deter some market participants from seeking to orchestrate a short squeeze.").

[81] *See, e.g.*, GameStop, Prospectus Supplement 2 (Apr. 5, 2021), *available at* https://www.sec.gov/Archives/edgar/data/1326380/000119312521186796/d192873d424b5.htm ("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*, SEEKINGALPHA.COM (Mar. 21, 2023), https://seekingalpha.com/news/3949687-gamestop-soars-after-recording-a-surprise-q4-profit.

[83] *See* GameStop, Prospectus Supplement (Apr. 5, 2021), https://www.sec.gov/Archives/edgar/data/1326380/000119312521105564/d160986d424b5.htm ("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).

our EDGAR search shows that only two companies—GameStop and AMC Entertainment, Inc.[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 ATM offering is unclear. Our 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 in midst of 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 stocks (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

[84] *See* AMC Entertainment, Prospectus Supplement (Jan. 25, 2021), https://www.sec.gov/Archives/edgar/data/1411579/000110465921006891/tm214013-1_424b5.htm. 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.[84] More recently, AMC Entertainment issued AMC Preferred Equity Units ("APEs"), with 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,"* THESTREET.COM (Dec. 27, 2022), https://www.thestreet.com/memestocks/amc/amc-ape-the-market-does-not-get-it.

[85] *See, e.g.*, Matt Levine, *Money Stuff: Meme Stocks Will Come With a Warning*, BLOOMBERG.COM (Feb. 9, 2021), https://www.bloomberg.com/news/newsletters/2021-02-09/the-sec-wants-reddit-meme-stocks-to-admit-they-re-dangerous-kky96vuo ("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 Industries, Inc. v. Green*, 430 U.S. 462, 476-77 (1977).

[87] *See, e.g.*, Matt Levine, *The Best Fraud Is in Plain Sight*, BLOOMBERG.COM (Jun. 22, 2020) https://www.bloomberg.com/opinion/articles/2020-06-22/the-best-fraud-is-in-plain-sight?sref=1kJVNqnU#footnote-5&leadSource=uverify%20wall (discussing how the SEC's reaching out to Hertz regarding its prospectus led to Hertz' termination of its planned securities offering while in bankruptcy).

for the company through secondary market purchase of its stocks. Their purchases can contribute to meme surges, which would offer the company an opportunity to rake in cash through an ATM offering.

C. Implications for Securities Regulation

Beyond the implications for trading markets, meme trading has significant implications for established doctrines in securities regulation. For example, Rule 10b-5 claims under the Securities and Exchange Act of 1934 is the most common type of securities liability in the United States.[88] To establish a 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] 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 chief executive officer (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 turned up to public Zoom meetings without his

[88] *See* Emily Strauss, *Is Everything Securities Fraud?*, 12 UC IRVINE L. REV. 1331, 1371 (2022).
[89] *See* Robbins v. Koger Props., 116 F.3d 1441, 1446 (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 (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), https://www.bloomberg.com/news/features/2022-08-17/amc-amc-stock-became-a-meme-thanks-to-adam-aron-s-antics.

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. 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 their actions did not inflate the price of shares; instead, they can argue that

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93 *See id.*

94 *See* Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. FIN. 28 (1969).

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 traders beyond trading markets? A natural question one can ask is whether retail investors participating in meme trades can bring about meaningful changes as retail shareholders. After all, the digital transformations discussed in Part II 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 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

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[95] *See* Sue S. Guan, *Meme Investors and Retail Risk*, 63 B.C. L. REV. 2051, 2100 (2022).

[96] *See* Fisch (2021), *supra* note 67**Error! Bookmark not defined.**, at 1841-42 & 1846-47; Ricci & Sautter, *supra* note 3, at 90-95; Sergio Alberto Gramitto Ricci & Christina M. Sautter, *The Wireless Investors Movement*, U. CHI. BUS. L. REV. BLOG (Jan. 28, 2022), https://businesslawreview.uchicago.edu/2022/01/28/the-wireless-investors-movement%EF%BF%BC (contending that retail trading "will naturally expand into corporate-governance-based initiatives").

[97] Ricci & Sautter, *supra* note 3, at 77 (arguing that "wireless investors" are more likely to "bring distinctive values to investing" and are "more apt to invest pursuant to their 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.").

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[,] in 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 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 II 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. And 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, and cultural relevance.[102] Indeed, all eight meme stock

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[99] *Id.* at 1840.
[100] *Id.*
[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* ANTHONY DOWNS, AN ECONOMIC THEORY OF DEMOCRACY (1957); Timothy J. Fedderson, *Rational Choice Theory and The Paradox of Not Voting*, 18 J. ECON. PERSP. 99 (2004).
[102] Naaman Zhou, *What Is GameStop, Where Do the Memes Come in, and Who Is Winning or Losing?*, THE GUARDIAN (Jan. 28, 2021, 1:46 AM), https://www.theguardian.com/culture/2021/jan/28/what-is-gamestop-where-do-the-memes-come-in-

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.

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.

IV. 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 IV 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

and-who-is-winning-or-losing (observing "[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.

104 Kastiel & Nili (2022), *supra* note 3. 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.*

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

argue that they are likely to care much more about the company's governance and 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 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 actually *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 II.A.

From the Figure, 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

[106] *See* Ian R. Appel et al., *Passive Investors, Not Passive Owners*, 121 J. FIN. ECON. 111 (2016) (showing how an increase in institutional ownership, due to changes in Russell stock indices, improves corporate governance and performance).
[107] Dhruv Aggarwal, Albert H. Choi & Yoon-Ho Alex Lee, *Meme Corporate Governance*, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4347885.
[108] *See id.*
[109] *See id.*
[110] *See* N.Y. STOCK EXCH'G. R. 452, https://nyseguide.srorules.com/rules.

surprising is the fact that the non-vote shares seem to be increasing even in 2022, 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.

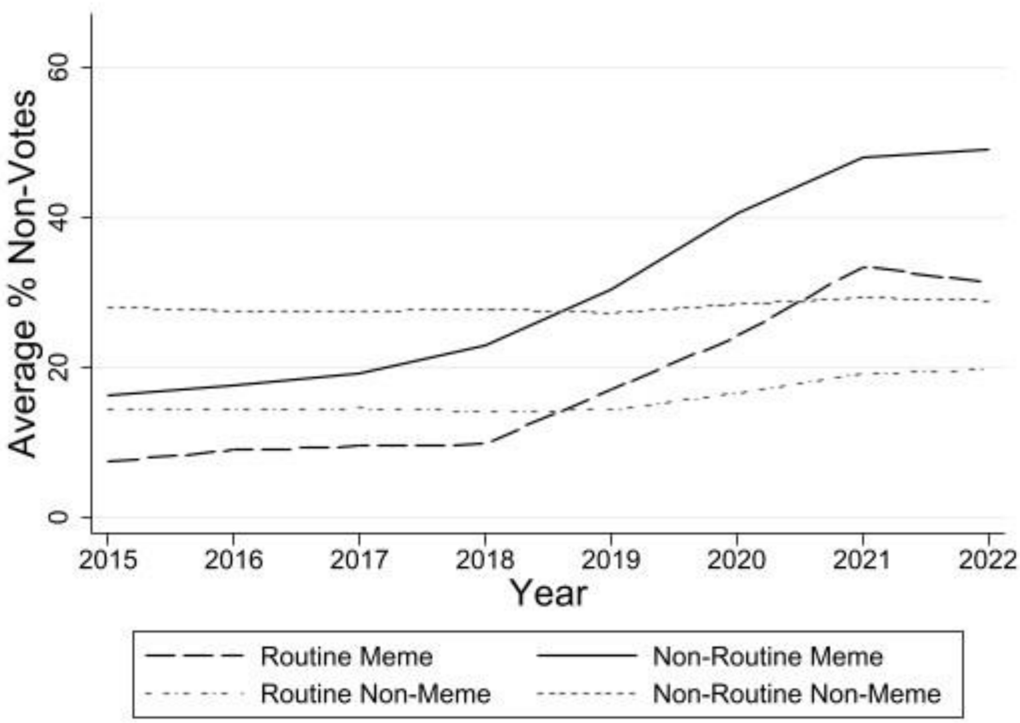

Figure 2. Average Share of Non-Votes for Meme and Non-Meme Stocks by Proposal Type. This figure presents information on the yearly average percentage of votes that were not voted in shareholder meetings. We define the number of non-votes as Total Outstanding Shares – (Votes For + Votes Against + Abstentions). We split the data by meme/non-meme stock as well as proposal type (i.e., whether or not it qualifies as "routine" as defined in NYSE Rule 452).

Moreover, no shareholder proposals made it onto the proxies of any of the meme companies after 2019.[111] With respect to indirect measures of corporate governance, we also find that meme companies' performance on environmental, social, and corporate governance (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

[111] *See id.*
[112] *See id.*

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 II.C., some startups are trying to use technology to improve shareholder-management communication. However, till such initiatives become somewhat mainstream, the disconnect between twenty-first century investing and the twentieth-century feel of 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

[113] *See* Marcel Kahan & Edward B. Rock, *The Hanging Chads of Corporate Voting*, 96 GEO. L.J. 1227 (2008).
[114] *See* Aggarwal, Choi & Lee, *supra* note 107; Michele Costola et al., *On the "Mementum" of Meme Stocks*, 207 ECON. LETTERS 110021 (2021).

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 because of its dedicated group of online 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.

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

[115] *See* Bernard Zambonin, *Is Tesla the "King of Meme Stocks"?*, THE STREET (Aug. 24, 2022), https://www.thestreet.com/memestocks/other-memes/is-tesla-the-king-of-meme-stocks.
[116] *See* Aggarwal, Choi & Lee, *supra* note 107.
[117] *See* Emmanuel M. Catan, *The Insignificance of Clear-Day Poison Pills*, 48 J. LEGAL STUD. 1 (2019).

as meme stocks. New methods in the textual analysis of data could help make such an empirical measure tractable.[118] 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 volume) and had lower share prices. Companies with such financial features could be more likely to attract retail investors. 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-induced bankruptcy.[119] 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.

V. 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

[118] *See* Matthew Gentzkow et al., *Text as Data*, 57 J. ECON. LIT. 535 (2019)
[119] *See* FORBES, *supra* note 39.

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 would be retail investors. Second, meme surges could induce more at-the-market offerings by companies keenly followed on social media: firm management would want to raise capital while their share prices are 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, we must 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 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. This retail coordination could lead to issues concerning predatory trading, at-the-market 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."