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On "Confetti Regulation": The Wrong Way to Regulate Gamified Investing

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ABSTRACT. "Gamified" investment apps like Robinhood use behavioral psychology to encourage frequent and often maladaptive trading activity. To address that problem, securities regulators may be tempted to regulate app design. Such an approach might involve bans on casino imagery, push notifications, confetti, or other aspects of the user experience. But that approach could draw the entire field of securities law into a techno-libertarian First Amendment thicket. This Essay describes the First Amendment litigation that regulators risk provoking, as well as the damage that they might do to the broader project of securities law. The Essay also proposes a strategy for regulators to avoid unnecessary litigation risk while still protecting consumers from the risks of gamified investing.

INTRODUCTION

Technology has made it easy to trade stocks and other speculative assets on mobile phones. Broker-dealers, market participants regulated under the securities laws, sponsor these apps. One popular app, Robinhood, offers attractive user-interface and user-experience design and salient contract terms—like no commissions for trading stocks—that are highly competitive in the market for "retail" or ordinary investor brokerage.[1] Flashy graphics and frictionless trading

1. *See, e.g.*, James Cutts, *Not All Brokerages Should 'Gamify' a la Robinhood—But Others Can/Will Go Further*, TRADERS MAG. (Sept. 14, 2021), https://www.tradersmagazine.com/departments/brokerage/not-all-brokerages-should-gamify-a-la-robinhood-but-others-can-will-go-further [https://perma.cc/F3F7-BFUD] (explaining that in the "competitive" retail brokerage market, Robinhood has "carve[d] out a distinctive niche with lower-net-worth, younger" clients through "zero-commission" trading and its "accessible and 'consumer-friendly' [user

have made it easier—and perhaps more fun—than ever before for ordinary people to trade stocks.

Robinhood's zero-commission business model leads it to encourage substitute revenue sources, like encouraging clients to trade prolifically to maximize third-party compensation to the broker. To that end, these apps incorporate design features that are sometimes called "gamification": behavioral prompts and flashy casino-like design elements that encourage unreflective or unconsidered decision making based on cognitive bias, imperfect rationality, and impulse.[2] These "gamified" design elements include randomized "surprise stocks" that reward users for linking bank accounts and referring new users, push notifications hyping short-term volatility in "biggest mover" stocks, and (until recently) splashes of animated confetti to celebrate a trade.[3] App developers point out that these features make investing more fun and approachable to nonprofessional individual investors—"retail investors," as they are called within the industry.[4] But by appealing to impulse rather than deliberation, the features promote patterns of risky trading that may not be in most retail investors' best interests.[5]

interface] design, which won an Apple Design Award within six months of the app's launch"); *see also, e.g.*, Letter from Robinhood Markets, Inc., to Vanessa A. Countryman, Sec'y, Sec. & Exch. Comm'n 2 (Oct. 1, 2021), https://www.sec.gov/comments/s7-10-21/s71021-9316498-260092.pdf [https://perma.cc/4R2S-7LCH] (claiming that Robinhood has helped close the investment and wealth gap in the United States through "its 'every customer' [stock-brokerage] product offering that has no account minimums, no trading commissions, a uniform margin interest rate, fractional trading, and a user-friendly interface that is easily accessible").

2. *See, e.g.*, *Game Stopped? Who Wins and Loses When Short Sellers, Social Media, and Retail Investors Collide—Part II: Virtual Hearing Before the H. Comm. on Fin. Servs.*, 117th Cong. 3-6 (2021) (statement of Vicki L. Bogan, Associate Professor, Cornell University) (linking gamification to manipulations that induce indeliberate decision making); Hannah Levintova, *Robinhood Promises Free Trades. Did Alex Kearns Pay with His Life?*, MOTHER JONES (Apr. 29, 2021), https://www.motherjones.com/politics/2021/04/robinhood-gamestop-free-trades-alex-kearns [https://perma.cc/CGZ9-VNUT].

3. *See, e.g.*, Michael Wursthorn & Euirim Choi, *Does Robinhood Make It Too Easy to Trade? From Free Stocks to Confetti*, WALL ST. J. (Aug. 20, 2020, 2:53 PM ET), https://www.wsj.com/articles/confetti-free-stocks-does-robinhoods-design-make-trading-too-easy-11597915801 [https://perma.cc/X26Z-XU7Q]; Jason Zweig, *When the Stock Market Is Too Much Fun*, WALL ST. J. (Dec. 11, 2020, 4:52 PM ET), https://www.wsj.com/articles/when-the-stock-market-is-too-much-fun-11607705516 [https://perma.cc/B3JB-LUBN]. For more information on the problems with confetti, see Caitlin McCabe, *Robinhood to Remove Controversial Digital Confetti from Trading App*, WALL ST. J. (Mar. 31, 2021, 7:11 PM), https://www.wsj.com/articles/robinhood-to-remove-controversial-digital-confetti-from-trading-app-11617195612 [https://perma.cc/E3SA-JMZE].

4. *See, e.g.*, Robert Schmidt & Ben Bain, *Robinhood's Dark Side: Irate Traders, U.S. Probe*, THINKADVISOR (Aug. 31, 2020, 10:22 AM), https://www.thinkadvisor.com/2020/08/31/robinhoods-dark-side-irate-traders-u-s-probe [https://perma.cc/7JXF-YRXY].

5. Scott Galloway, *iAddiction*, NO MERCY/NO MALICE (June 19, 2020), https://www.profgalloway.com/iaddiction [https://perma.cc/3MXC-YDD6].

Securities law subjects the financial intermediaries behind these apps to broker-dealer rules governing their communications with retail-investor clients. Now, regulators are asking how those rules might apply to gamified app design.[6] A majority of the Securities and Exchange Commission (SEC) has expressed interest in regulating gamified app design, and the agency has requested information from the public on what it calls "digital engagement practices" in broker-dealer regulation.[7] Massachusetts securities regulators have meanwhile sought to revoke Robinhood's broker-dealer registration, alleging that "gamification" violates state-law fiduciary duties owed to clients.[8] And the Financial Industry Regulatory Authority (FINRA), the self-regulatory organization for broker-dealers, signaled that its examination and risk-monitoring program is "increasingly focused" on "risks associated with app-based platforms with interactive or 'game-like' features."[9]

For regulators, the concern is that gamification and other digital-engagement practices in zero-commission stock-trading apps may subtly influence

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6. *See infra* notes 7-10 and accompanying text; *see also, e.g.*, Jennifer J. Schulp, *The Trading Game*, REGUL. REV. (May 3, 2021), https://www.theregreview.org/2021/05/03/schulp-trading-game [https://perma.cc/7S3F-7X2U] (explaining that "regulators are increasing their scrutiny of digital trading platforms," and assessing the extent to which gamified app design may or may not be "covered by existing regulations").

7. *See* Request for Information and Comments on Broker-Dealer and Investment Adviser Digital Engagement Practices, Exchange Act Release No. 92766, 86 Fed. Reg. 49067 (Sept. 1, 2021) [hereinafter DEP Request]; *see also, e.g.*, Letter from James Fallows Tierney to Vanessa A. Countryman, Sec'y, Sec. & Exchange Comm'n (Oct. 1, 2021), https://www.sec.gov/comments/s7-10-21/s71021-9316496-260091.pdf [https://perma.cc/59N6-TNYY] (describing the negative implications of digital-engagement practices in retail-securities markets and recommending regulatory interventions to curb the issues). On individual Commissioners' interest in regulating digital-engagement practices, see *Game Stopped? Who Wins and Loses When Short Sellers, Social Media, and Retail Investors Collide, Part III: Virtual Hearing Before the H. Comm. on Fin. Servs.*, 117th Cong. (2021) (testimony of Gary Gensler, Chair, Securities & Exchange Commission), https://www.sec.gov/news/testimony/gensler-testimony-20210505 [https://perma.cc/BG94-87G3]; Chris Ekimoff & Kurt Wolfe, *Enforcing the Regulations—A Conversation with Commissioner Crenshaw*, PLI INSECURITIES, at 19:00-22:00 (June 17, 2021), https://insecurities.podbean.com/e/enforcing-the-regulations-%e2%80%93-a-conversation-with-commissioner-crenshaw [https://perma.cc/FA6S-DBJP]; and Allison Herren Lee, Comm'r, Sec. & Exchange Comm'n, Leveraging Regulatory Cooperation to Protect America's Investors, Remarks at the 2021 Section 19(d) Conference (May 21, 2021), https://www.sec.gov/news/speech/lee-2021-section-19d-conference [https://perma.cc/D73J-F6FW].

8. *See* Motion for Leave to File Amended Administrative Complaint, Robinhood Financial, LLC, No. E-2020-0047 (Mass. Sec. Div. Apr. 15, 2021), https://static.reuters.com/resources/media/editorial/20210415/04142021robinhood_amend.pdf [https://perma.cc/XM47-PHBB].

9. *2021 Report on FINRA's Examination and Risk Monitoring Program*, FINRA 2 (Feb. 2021), https://www.finra.org/sites/default/files/2021-02/2021-report-finras-examination-risk-monitoring-program.pdf [https://perma.cc/GZQ4-H687].

investors' behavior and preferences.[10] This influence may not be transparent to users of these stock-trading apps, causing them to make decisions that are inconsistent with their preferences about how to achieve their financial goals—such as by encouraging maladaptive overconsumption of trades.[11]

In principle, there are many ways for regulators to both define the problem and address it through policy. For instance, the SEC's concept of "digital engagement practices" includes not only "gamification," but also backend practices like AB testing, machine learning, and other ways of finetuning algorithmic design.[12] In other work, we address a fuller range of ways to frame and respond to behavioral design in retail brokerage apps.[13]

In this Essay, we focus on just one approach to the problem. Regulators might find it tempting to ban design features that they find objectionable, such as bursts of confetti after the successful execution of a trade, because of their plausible effect on the trading behavior of investors. We use "confetti regulation" to describe this kind of approach to the problem of behavioral design: command-and-control or prohibitory regulation of behavioral design features in brokerage apps. Such regulations might cover confetti splashes, push notifications, leaderboards, behavioral prompts, and the like.

Our Essay warns securities regulators *away* from confetti regulation, either through new rulemaking or through enforcement of existing law, for two reasons. The less important of the two is that confetti regulation could be hard to implement and justify, and risks devolving into a game of whack-a-mole: reacting to regulatory concerns as they pop up without planning for future concerns. The more significant problem is that confetti regulation would likely spur deregulatory efforts from technology attorneys who cast informational molehills as free-speech mountains.

Securities regulation is largely about controlling the terms that dictate how companies communicate with and provide information to the capital markets—

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10. *See, e.g.*, Dean Seal, *SEC Chair Wary of Conflicts, Bias in Predictive Data Tools*, LAW360 (Oct. 12, 2021, 9:02 PM EDT), https://www.law360.com/articles/1430151/sec-chair-wary-of-conflicts-bias-in-predictive-data-tools [https://perma.cc/LX9E-B7SA] (reporting SEC Chair Gary Gensler's remarks expressing concern that digital-engagement practices "encourage[] customers to trade more often, if increased trading translates to higher revenue").

11. *See, e.g.*, DEP Request, *supra* note 7, at 49069-70; *see also, e.g.*, *infra* notes 32-33 (describing how gamification can manipulate investors and lead to choice distortion).

12. *See* DEP Request, *supra* note 7, at 49072 (describing the "analytical and technological tools and methods" that brokers can use "to develop, test, and implement [digital engagement] practices," like "predictive data analytics and AI/ML models").

13. *See, e.g.*, James Fallows Tierney, Gamification in Securities Regulation (Dec. 15, 2021) (unpublished manuscript), https://www.ssrn.com/abstract=3916407 [https://perma.cc/RBX2-WDKC]; Kyle Langvardt, *Regulating Habit-Forming Technology*, 88 FORDHAM L. REV. 129 (2019).

yet it has somehow avoided serious First Amendment scrutiny for decades.[14] But in recent years, the SEC "has lost a string of important appeals before the high court" concerning its enforcement program.[15] In our view, it would be unwise for the agency to pursue regulatory strategies that would precipitate further deregulatory constitutional challenges. We are particularly concerned that Silicon Valley technology lawyers might set out to establish a First Amendment landmark decision on the "right to code," and that along the way they might lay the groundwork to invalidate securities regulation itself at a more fundamental level.

The safer approach is to avoid making regulations *about the software*—by which we mean two things. First, regulators should avoid asserting direct control over "bad" software design, and instead focus on the business model that drives it. Second, regulators should justify regulatory action in terms of settled policies that are technology neutral. Predatory gamification might, for example, violate longstanding policies prohibiting brokers from putting their own interests in remuneration ahead of the retail customer's interests, such as by "churning" customer accounts or recommending unsuitably large numbers of trades.[16]

In Part I, we begin by introducing gamification as the product of the modern stock-brokerage business model and discussing the potential social harms that it might generate. In Part II, we focus on one salient and superficially easy regulatory intervention: "confetti regulation," or command-and-control style regulation of the aesthetic design of brokerage apps. We argue that policing brokerage app design in this way would raise hard line-drawing problems and, in any case, would plausibly be subject to heightened First Amendment scrutiny. In Part III, we highlight two implications of our argument. In an era when courts are engaged in constitutional deregulation, securities regulators might avoid confetti regulation to stave off unwelcome scrutiny of the securities laws' information-control provisions. Instead, we suggest, regulators should consider framing gamification and other digital-engagement practices as old wine in new bottles: technologically mediated efforts to appeal to cognitive and behavioral tendencies that encourage self-directed clients to behaviorally churn their own accounts, maximizing revenue to the broker. We conclude by teeing up for future work

14. *See infra* Section III.A.

15. Dave Michaels, *Supreme Court Justices Indicate They May Further Narrow SEC's Enforcement Authority*, WALL ST. J. (Mar. 3, 2020, 5:22 PM ET), https://www.wsj.com/articles/supreme-court-justices-indicate-they-may-further-narrow-secs-enforcement-authority-11583265540 [https://perma.cc/BNY4-XGBS]; *see also* Alexander I. Platt, *Unstacking the Deck: Administrative Summary Judgement and Political Control*, 34 YALE J. ON REGUL. 439, 462 & n.101 (2017) (collecting cases that together represent a "wave of broad constitutional challenges" to SEC adjudications).

16. *See infra* Section III.B (describing these policies and doctrinal tools).

components of a framework for assessing behavioral design against the securities laws' goals.

I. GAMIFICATION AND RETAIL INVESTING

The business model of stock brokerage has changed significantly in recent years. Stockbrokers charge transaction-based compensation for providing financial-advisory services and market access to clients, including commissions for effecting their trades. These commissions were historically high, making *active* trading the domain of the wealthy and inaccessible to many ordinary investors.[17] Several trends have disrupted this obstacle to active trading by ordinary investors: deregulation of fixed commissions and intermarket price transparency in the 1970s and 1980s,[18] technological innovation in the 1990s,[19] and the adoption of decimalized rather than fractional pricing with one-penny minimum tick size in the 2000s.[20] The ensuing price wars among online discount brokers led many online discount brokers, including those with the biggest market share, to offer zero-commission trading by late 2019.[21] Ordinary investors can therefore trade stocks without paying commissions to a broker.

But firms offering "free" services – particularly online services – typically do so by collecting revenues in ways that are less salient to the consumer.[22] They may collect and analyze consumer data (e.g., social-media usage) for third-party

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17. *See, e.g.*, Janice M. Traflet & Michael P. Coyne, *Ending a NYSE Tradition: The 1975 Unraveling of Brokers' Fixed Commissions and Its Long Term Impact on Financial Advertising*, 25 ESSAYS ECON. & BUS. HIST. 131, 138 (2007) (noting that price competition and advertising had led some discount brokerages, by the mid-2000s, to "offer trades as low as $9.95 – an amount hard to imagine in 1975"); *Analyzing the Analysts: Hearing Before the Subcomm. on Capital Mkts., Ins. & Gov't Sponsored Enters. of the H. Comm. on Fin. Servs.*, 107th Cong. 102 (2001) (statement of Benjamin M. Cole, financial journalist) (observing that before deregulation, stockbrokers charged fixed commissions and catered to wealthy traders).

18. *See, e.g.*, Arthur B. Laby, *Selling Advice and Creating Expectations: Why Brokers Should Be Fiduciaries*, 87 WASH. L. REV. 707, 726-29 (2012).

19. *See, e.g.*, Matthew J. Benson, *Online Investing and the Suitability Obligations of Brokers and Broker-Dealers*, 34 SUFFOLK U. L. REV. 395, 395 (2001).

20. *See, e.g.*, Thanos Verousis, Pietro Perotti & Georgios Sermpinis, *One Size Fits All? High Frequency Trading, Tick Size Changes and the Implications for Exchanges: Market Quality and Market Structure Considerations*, 50 REV. QUANTITATIVE FIN. & ACCT. 353, 354 (2018).

21. *See, e.g.*, Richard Henderson, *America's e-Brokerages Scramble to Protect Margins amid Fee War*, FIN. TIMES (Oct. 24, 2019), https://www.ft.com/content/06379154-f641-11e9-9ef3-eca8fc8f2d65 [https://perma.cc/KN7U-SV9R]; Lisa Beilfuss & Alexander Osipovich, *The Race to Zero Commissions*, WALL ST. J. (Oct. 5, 2019, 5:30 AM), https://www.wsj.com/articles/the-race-to-zero-commissions-11570267802 [https://perma.cc/4T5G-4Y23].

22. *See, e.g.*, James Fallows Tierney, *Contract Design in the Shadow of Regulation*, 98 NEB. L. REV. 874, 889 (2020).

consumption, or tease users into long series of microtransactions (e.g., unlocking new levels in Candy Crush).[23] The story at zero-commission brokerages is much the same: these brokerages often sell clients financial advice, margin lending, net-interest income, and "payment for order flow" (PFOF).[24] PFOF, in particular, appears to drive much of the gamification trend. It is something like a bounty system. Third parties want information about or access to retail investors' trades.[25] These third parties then pay a broker (like Robinhood) to route the execution of those trades to them rather than elsewhere in the stock market.[26]

The PFOF/zero-commission business model gives investment-app developers every incentive to maximize user engagement with the product. In this respect, they are in the same boat as ad-financed social media or "free" phone games with in-app purchases—or slot machines, for that matter. This common incentive structure has led video slot machines, Facebook, Candy Crush, and Robinhood alike to use behavioral design to encourage habit formation and maximize time spent using a device.[27] Robinhood famously splashed confetti across users' screens upon execution of a trade or offered a virtual scratch-off ticket to those who had won some reward.[28] In its request for information about digital-engagement practices, the SEC noted other examples of these kinds of design features, including "[s]ocial networking tools; games, streaks, and other contests with prizes; points, badges, and leaderboards; notifications; celebrations for trading; visual cues; ideas presented at order placement and other curated lists or features; subscriptions and membership tiers; and chatbots."[29]

Lots of time spent "playing" a brokerage app is an undesirable outcome for most retail traders. Decades of research shows that in aggregate, retail investors

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23. *See* Langvardt, *supra* note 13, at 134-41.

24. *See, e.g.*, Jerry W. Markham, *Regulating Broker-Dealer Investment Recommendations—Laying the Groundwork for the Next Financial Crisis*, 13 DREXEL L. REV. 377, 441-45 (2021).

25. *See, e.g.*, David Easley, Nicholas M. Kiefer & Maureen O'Hara, *Cream-Skimming or Profit-Sharing? The Curious Role of Purchased Order Flow*, 51 J. FIN. 811 (1996).

26. *See generally* Hitesh Mittal & Kathryn Berkow, *The Good, The Bad & The Ugly of Payment for Order Flow*, BESTEX RSCH. (May 3, 2021), https://f.hubspotusercontent10.net/hubfs/4982966/BestEx%20Research%20PFOF%2020210503.pdf [https://perma.cc/V8ED-VEC2] (describing the controversy around "payment for order flow" (PFOF)). We save for future work a full discussion of PFOF and its implications for the gamification debate.

27. *See, e.g.*, NIR EYAL & RYAN HOOVER, HOOKED: HOW TO BUILD HABIT-FORMING PRODUCTS 39-60 (2014).

28. *See* Wursthorn & Choi, *supra* note 3.

29. DEP Request, *supra* note 7, at 49068.

perform worse the more actively they trade.[30] Empirical models of retail-investor behavior attribute the persistence of underperforming active trading to different causes, including sensation seeking, overconfidence, and limited attention.[31] Being distracted is not all that different from being duped if app-design features like push notifications, curated lists of securities, and leaderboards lead investors to trade more, or in different securities, than they would in the absence of these influences.[32] Some recent studies have documented that Robinhood users engage in attention-induced trading in sets of securities that were more salient because they appeared on leaderboards within the app.[33] These results indicate that "gamified" app design and other digital-engagement practices appeal to behavioral tendencies—and can even encourage trading in particular securities.

Studies like these raise troubling questions about the consumer-welfare implications of apps designed to stimulate frequent trading in stocks, exchange-traded funds, and cryptocurrencies by appealing to behavioral psychology. It seems likely that this kind of design offends a broader policy in securities law against brokers who put their own interest in transaction-based compensation ahead of the client's by effecting or encouraging more trading than is in the customer's best interest. We therefore agree with regulators who think gamified investing deserves regulatory attention.[34] But we also think that the most intuitive approach—a simple ban on dangerous features[35]—would produce unintended consequences.

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30. *See, e.g.*, Brad M. Barber & Terrance Odean, *Trading Is Hazardous to Your Wealth: The Common Stock Investment Performance of Individual Investors*, 55 J. FIN. 773, 795 (2000) ("[T]hose investors who trade most actively realize, on average, the lowest net returns . . . .").

31. *See, e.g.*, Brad M. Barber & Terrance Odean, *The Behavior of Individual Investors*, *in* 2B HANDBOOK OF THE ECONOMICS OF FINANCE 1533, 1547-51 (George M. Constantinides, Milton Harris & René M. Stulz eds., 2013).

32. *See, e.g.*, Bogan, *supra* note 2, at 6 (referring to "investor manipulation through the gamification of investing"); Tierney, *supra* note 13, at 26-29 (describing how "noisy" behavioral design can lead to "choice distortion").

33. *See, e.g.*, Gregory W. Eaton, T. Clifton Green, Brian S. Roseman & Yanbin Wu, Retail Trader Sophistication and Stock Market Quality: Evidence from Brokerage Outages (Oct. 15, 2021) (unpublished manuscript), https://ssrn.com/abstract=3776874 [https://perma.cc/Y3EM-T8JV]; Brad M. Barber, Xing Huang, Terrance Odean & Christopher Schwarz, *Attention Induced Trading and Returns: Evidence from Robinhood Users*, J. FIN. (forthcoming 2022), https://ssrn.com/abstract=3715077 [https://perma.cc/KCJ6-YF2V].

34. *See, e.g.*, Tierney, *supra* note 13, at 36-41; Tierney, *supra* note 7.

35. *See, e.g.*, Chris Matthews, *As Robinhood IPO Nears, Critics Say App Design Includes 'Subliminal Messages' to Make Users Trade More*, MARKETWATCH (Mar. 25, 2021, 1:19 PM), https://www.marketwatch.com/story/as-robinhood-ipo-nears-critics-say-app-design-includes-subliminal-messages-to-make-users-trade-more-11616692781 [https://perma.cc/L5AM-D5HX] (describing Dennis Kelleher, CEO of a nonprofit advocating for stricter financial-services

II. THE EASY CASE AGAINST CONFETTI REGULATION

We see two reasons to avoid a regulatory strategy that focuses directly on app design. The first is that concepts like "gamification" and "behavioral design" are slippery and do not lend themselves well to line drawing. The likelihood that these features may occasionally be helpful or at least innocuous only complicates the line-drawing problem. Second, we expect that any law regulating software design directly will draw First Amendment challenges.

A. The Elusive Problem of Objectionable Confetti

Line-drawing issues will complicate any effort to regulate behavioral design. There are a few reasons for this. The first is that games in general are not identified by the presence of particular features or elements, but by a Wittgensteinian "family resemblance" to other games.[36] One federal judge, characterizing "[t]he term 'game' [as] exceedingly vexed and difficult," struck down a city ordinance that prohibited playing games in public spaces.[37] The ordinance, she wrote, was "hopelessly vague and substantially overbroad, because there is no attempt to explain what is meant by 'game,' and because it prohibits a tremendous number of innocent and even desirable activities."[38] Any broad ban on "gamification"—a concept defined by a *second* layer of "family resemblance" to games themselves—would suffer the same difficulties.

Narrower definitions of gamification are perhaps possible, but these quickly run into problems of underinclusiveness that gambling regulators know well. "[N]o sooner is a lottery defined," the North Carolina Supreme Court wrote in 1915, "and the definition applied to a given state of facts, than ingenuity is at work to evolve some scheme of evasion which is within the mischief, but not quite within the letter, of the definition."[39] So if one state's definition of gambling revolves around a "game of chance," for example, then gambling promoters will

oversight, as arguing for the investigation of "everything from the user-experience design to the colorful nature of the app to its lists of most popular stocks"); Bogan, *supra* note 2, at 6 (testifying in favor of "[p]rohibit[ing] user interface mechanisms (e.g., push notifications) that have been designed to increase more trading volume without regard to consumer priorities or risks").

36. *See* Ludwig Wittgenstein, Philosophical Investigations §§ 65-71 (G.E.M. Anscombe trans., 1953).

37. Weigand v. Vill. of Tinley Park, 114 F. Supp. 2d 734, 738 (N.D. Ill. 2000) (issuing a preliminary injunction); *see also* Weigand v. Vill. of Tinley Park, 129 F. Supp. 2d 1170, 1171 (N.D. Ill. 2001) (granting a permanent injunction).

38. *Weigand*, 129 F. Supp. 2d at 1171.

39. State v. Lipkin, 84 S.E. 340, 343 (N.C. 1915).

look for ways to introduce some trivial element of skill to the game. One recent hustle involves video-arcade machines that allow players to catch fish and other treasures in an unusually fast-paced and casino-styled koi pond. These "fish game tables" accept large-denomination bills and pay out occasional cash winnings.[40] Chance (and AI) largely determines who wins and how much, but skill seems to play some small role – just enough, perhaps, to buy the business model a bit of time while the gambling regulators catch up to it.[41]

We suspect that securities regulators taking on the mantle of "gamification regulators" could easily find themselves in the same "whack-a-mole" situation: reacting to regulatory concerns as they pop up, but making little progress toward addressing future concerns.[42] And when the mole can be reconfigured and adjusted – as when Robinhood replaced the "confetti" feature overnight with "new, dynamic visual experiences that cheer on customers through the milestones in their financial journeys"[43] – regulators will struggle all the more to update and define any ex ante regulations.

A second difficulty is that the kinds of gamification features that might be swept under a "confetti regulation" label are not always particularly objectionable. Confetti itself, for instance, might look crass compared to the financial industry's staid aesthetic standards. But is it really the sight of confetti that leads

40. *See* Robert Rath, *Why Cops Are Raiding Arcades over a Fishing Game*, VICE (Nov. 23, 2016, 1:40 PM) https://www.vice.com/en/article/znm8zx/why-cops-are-raiding-arcade-over-a-fishing-game [https://perma.cc/4CCR-4CVN].

41. *See* Christine Hurt, *Regulating Public Morals and Private Markets: Online Securities Trading, Internet Gambling, and the Speculation Paradox*, 86 B.U. L. REV. 371, 378 (2006) (situating speculative activities like gambling and investing along a "spectrum of activity based on the element of chance involved"). Gambling is conventionally defined as "the payment of consideration for the chance to win a prize or reward." John A. Gebauer, *Gambling*, *in* 38 AMERICAN JURISPRUDENCE § (I)(A)(2) (2d ed. 2021).

42. Securities and gaming law have long shared the concern that rules-based regimes can provide a roadmap for evasion. *Compare* Elaine A. Welle, *Freedom of Contract and the Securities Laws: Opting Out of Securities Regulation by Private Agreement*, 56 WASH. & LEE L. REV. 519, 561-62 (1999) (warning that bright-line rules in the securities context tempt the unscrupulous to exploit technicalities and evade the law), *with Lipkin*, 84 S.E. at 343 (declaring that the law will "strip [any rule-skirting gambling scheme] of all its thin and false apparel and consider it in its very nakedness" because courts "will look to the substance and not to the form of it, in order to disclose its real elements and the pernicious tendencies which the law is seeking to prevent").

43. *A New Way to Celebrate with Robinhood*, ROBINHOOD (Mar. 31, 2021), https://blog.robinhood.com/news/2021/3/31/a-new-way-to-celebrate-with-robinhood [https://perma.cc/49BW-B6XN]; *see also* McCabe, *supra* note 3 (reporting Robinhood replaced the confetti with new designs).

users to trade in highly volatile stocks, assets, and cryptocurrencies, or is it the simple unadorned thrill of making big money off of a risky trade?[44]

Another example: consider confetti regulations that have attempted to control aesthetic design choices such as the colors in which information is presented. These design choices could plausibly change the salience of certain investing options, as evidence suggests that presenting financial data in red may subtly color investors' perception of future risk and trading decisions.[45] But if American traders have come to associate the color red with negative financial performance, should regulation try to sever that link because the presentation of information alters investor behavior?

Or consider further still push notifications, which present information in particular ways to increase its salience. Some push notifications might serve as calls to action by notifying a user that a particular stock is down more than five percent or that they have not yet traded in their new account (so won't they check out a list of popular stocks?).[46] But other push notifications seem more helpful or benign, such as those indicating that a good-til-canceled limit-order trade was executed or that a user has been logged out of their account after being idle for a certain period of time. There are other gray areas: many notifications are defaults subject to opting out, while others might require opting in.

Defining the scope of regulation is a well-understood problem, and these line-drawing issues complicate the ex ante rulemaking approach substantially.[47] Ex post adjudication of principles-based rules, meanwhile, will remain subject to loud and influential, if not entirely persuasive, criticisms that the SEC is engaging in "regulation by enforcement."[48] And when regulators draw lines that

44. Matt Levine, Opinion, *Melvin Capital Had a Better Month*, BLOOMBERG (Mar. 4, 2021, 12:27 PM), https://www.bloomberg.com/opinion/articles/2021-03-04/melvin-capital-improves-from-gamestop-reddit-struggle [https://perma.cc/Z5RT-JQQ2] (arguing that seeing profits, not confetti, is "the main dopamine payoff").

45. *See* William J. Bazley, Henrik Cronqvist & Milica Mormann, *Visual Finance: The Pervasive Effects of Red on Investor Behavior*, 67 MGMT. SCI. 5616, 5637 (2021).

46. *See, e.g.*, Nicole Casperson, *Robinhood Under Pressure for Bringing "Gamification" to Investing*, INVESTMENTNEWS (Dec. 18, 2020), https://www.investmentnews.com/robinhood-under-pressure-for-bringing-gamification-to-investing-200607 [https://perma.cc/7VR3-FSPB].

47. Commentators and the securities defense bar have also expressed concerns about line drawing. *See, e.g.*, Michael Gross, *Gamification: Regulators Should Try the Investor Education Game*, BROKER-DEALER L. CORNER (June 1, 2021), https://www.bdlawcorner.com/2021/06/gamification-regulators-should-try-the-investor-education-game [https://perma.cc/P8DX-7K2T]; Levine, *supra* note 44.

48. *See, e.g.*, James J. Park, *The Competing Paradigms of Securities Regulation*, 57 DUKE L.J. 625, 634-41 (2007) (describing the criticism that the SEC elaborates on the requirements of securities law through ex post enforcement actions rather than through ex ante rulemaking); *cf.* Mark Schoeff, Jr., *SEC Member Robert Jackson Calls out Critics of Agency "Rulemaking by Enforcement,"* are either fuzzy, misplaced, or informed by controversial science, they are likely to face challenges under the Administrative Procedure Act[49] or the First Amendment. In our view, these are reasons to avoid regulatory techniques that are directly responsive to specific app design choices.

B. Unwanted First Amendment Attention

We are particularly concerned about the First Amendment challenges. Securities law is heavily concerned with regulating the flow of information—so much so that First Amendment scholar Fred Schauer once joked that it "would not be wholly inaccurate" to call the SEC the "Content Regulation Commission."[50] However, although it is full of "restrictions and requirements that in other contexts would set off a host of First Amendment alarm bells,"[51] securities law has remained mostly sheltered from the searching First Amendment scrutiny that courts have applied in other contexts.[52]

The reasons for that shelter are unclear. What *is* clear is that the shelter looks ever more anomalous amid the broader trend in favor of corporate speakers who brandish a "weaponized" First Amendment against profit-reducing

INVESTMENTNEWS (Dec. 9, 2019), https://www.investmentnews.com/sec-member-robert-jackson-calls-out-critics-of-agency-rulemaking-by-enforcement-170856 [https://perma.cc/W5A8-VK7K] (quoting Commissioner Robert Jackson describing as "bullshit" these critiques that reflect a preference for "fundamentally less protection in the marketplace for American investors," and Commissioner Allison Herren Lee as observing that "the folks who complain about regulation by enforcement are the same ones who push hard for these principles-based rules, and it makes you wonder whether they would ever support an enforcement of those rules").

49. *See* Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983).

50. Frederick Schauer, *The Boundaries of the First Amendment: A Preliminary Exploration of Constitutional Salience*, 117 HARV. L. REV. 1765, 1778 (2004).

51. *Id.* at 1779.

52. *See* Ohralik v. Ohio State Bar Ass'n, 436 U.S. 447, 456 (1978) (observing that "[n]umerous examples could be cited of communications that are regulated without offending the First Amendment, such as the exchange of information about securities"); *see, e.g.*, Schauer, *supra* note 50, at 1780 (writing in 2004 that "[t]oday, a quarter of a century after the first warnings were sounded and twenty years after those warnings were loudest, securities regulation goes on as before, remaining a domain largely outside the coverage of the First Amendment"). The historically light scrutiny of securities law under the First Amendment has long been a subject of debate among scholars. *See, e.g.*, Jerry W. Markham, *Securities and Exchange Commission vs. Elon Musk and the First Amendment*, 70 CASE W. L. REV. 339 (2019); Susan B. Heyman, *The Quiet Period in a Noisy World: Rethinking Securities Regulation and Corporate Free Speech*, 74 OHIO ST. L.J. 189 (2013); Antony Page, *Taking Stock of the First Amendment's Application to Securities Regulation*, 58 S.C. L. REV. 789 (2007); Aleta G. Estreicher, *Securities Regulation and the First Amendment*, 24 GA. L. REV. 223 (1990).

regulations.[53] And though we seriously doubt that a confetti ban would impair the freedom of expression in any normatively significant way, we think the same could be said for many more of the marketing regulations that courts have struck down as unconstitutional in recent decades.

Marketing at one time was not treated as First Amendment speech at all.[54] The Supreme Court began to extend First Amendment protections to commercial advertising in the 1970s, and ultimately settled on an approach that required the government to satisfy intermediate scrutiny when regulating truthful, non-misleading advertising for products and services that were not themselves illegal.[55] In the past decade, however, the Court has appeared to inch toward treating advertising as fully protected. The Court's 2011 opinion in *Sorrell v. IMS Health* drew significant attention for describing a limitation on the use of personal data for marketing purposes as a viewpoint-discriminatory law that targeted "speakers and their messages for disfavored treatment."[56]

Labeling and disclosure requirements have recently come under particularly close scrutiny. In 2018, in *NIFLA v. Becerra*, the Supreme Court held that the First Amendment applies with full force to representations by professionals in highly regulated industries, and that even purely factual disclosure requirements can trigger strict scrutiny if they relate to "controversial" public policies.[57] Here,

53. *See, e.g.*, Amy Kapczynski, *The Lochnerized First Amendment and the FDA: Toward a More Democratic Political Economy*, 118 Colum. L. Rev. Online 179 (2018) (noting that a "weaponized" First Amendment threatens core functions of the Food and Drug Administration); Janus v. Am. Fed'n of State, Cnty. & Mun. Emps., Council 31, 138 S. Ct. 2448, 2501 (2018) (Kagan, J., dissenting) (explaining that the majority opinion in *Janus* "weaponiz[es] the First Amendment, in a way that unleashes judges, now and in the future, to intervene in economic regulatory policy"); *cf.* Nat'l Ass'n of Mfrs. v. SEC (*NAM*), 800 F.3d 518, 524 (D.C. Cir. 2015) (noting "the flux and uncertainty of the First Amendment doctrine of commercial speech").

54. In *Valentine v. Chrestensen*, the Court held that the government may ban the distribution of "purely commercial advertising" in public fora without incurring First Amendment scrutiny, and that attaching noncommercial messaging to the advertisement in order to evade regulation does not change the result: "If that evasion were successful, every merchant who desires to broadcast advertising leaflets in the streets need only append a civic appeal, or a moral platitude, to achieve immunity from the law's command." 316 U.S. 52, 54-55 (1942).

55. This is an abbreviated account of the four-factor *Central Hudson* test. *See* Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n, 447 U.S. 557, 566 (1980) ("At the outset, we must determine whether the expression is protected by the First Amendment. For commercial speech to come within that provision, it at least must concern lawful activity and not be misleading. Next, we ask whether the asserted governmental interest is substantial. If both inquiries yield positive answers, we must determine whether the regulation directly advances the governmental interest asserted, and whether it is not more extensive than is necessary to serve that interest.").

56. 564 U.S. 552, 565 (2011).

57. 138 S. Ct. 2361, 2371-73 (2018).

the Court struck down a California law that required "crisis pregnancy centers" to provide patients with factual information regarding the availability of contraception and abortion services.[58] Justice Thomas, writing for the majority, reasoned that

> when the government polices the content of professional speech, it can fail to "preserve an uninhibited marketplace of ideas in which truth will ultimately prevail." Professionals might have a host of good-faith disagreements, both with each other and with the government, on many topics in their respective fields. Doctors and nurses might disagree about the ethics of assisted suicide or the benefits of medical marijuana; lawyers and marriage counselors might disagree about the prudence of prenuptial agreements or the wisdom of divorce; bankers and accountants might disagree about the amount of money that should be devoted to savings or the benefits of tax reform.[59]

The Court's hostility toward mandatory disclosures, together with its announcement that bankers' "disagree[ments] about the amount of money that should be devoted to savings" are as sacred for First Amendment purposes as political debate, suggest that brokers and retail investors are well positioned to challenge the laws that govern their business.[60] Justice Breyer underscored the implications of this turn, noting that the framework for professional speech set out in *NIFLA*, "if taken literally, could radically change prior law, perhaps placing much securities law or consumer protection law at constitutional risk."[61]

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58. *Id.* The required notice stated that "California has public programs that provide immediate free or low-cost access to comprehensive family planning services (including all FDA-approved methods of contraception), prenatal care, and abortion for eligible women. To determine whether you qualify, contact the county social services office at [insert the telephone number]." CAL. HEALTH & SAFETY CODE § 123472(a)(1) (Deering 2021).

59. *Id.* at 2374-75 (quoting McCullen v. Coakley, 573 U.S. 464, 576 (2014)).

60. *Compare* Bulldog Invs. Gen. P'ship v. Sec'y of the Commonwealth, 953 N.E.2d 691, 700-01, 717 (Mass. 2011) (noting that a hedge fund's advertising about "its financial products, management, and investment philosophy are speech protected by the First Amendment," but concluding that a state securities regulator's enforcement proceeding against the fund for violating rules governing advertising in private offerings did not violate the fund's First Amendment rights), *with* Brief Amici Curiae of Cato Institute, Competitive Enterprise Institute, John Berlau, Deirdre Brennan, James McRitchie, Antony Page, and Andrew Weinman in Support of Petitioners, Bulldog Invs. Gen. P'ship v. Galvin, 132 S. Ct. 2377 (2012) (No. 11-954) (encouraging the Court to reverse *Bulldog Investors* and strike down the state-law restrictions on "truthful, non-misleading speech" in securities offerings, in part to protect potential audiences' interests in learning about privately offered securities that they are prohibited from buying "for journalistic, research or other non-investment reasons").

61. *NIFLA*, 138 S. Ct. at 2380 (Breyer, J., dissenting).

For the SEC, the risk of constitutional deregulation extends beyond the Supreme Court to the D.C. Circuit. That court's decisions are important and salient to the SEC, especially because of the agency's programmatic interests in broker-dealer regulation.[62] And the D.C. Circuit has been foreshadowing the possibility of closer scrutiny of securities law under the First Amendment since striking down the SEC's "conflict mineral" disclosure rule in 2015.[63] That case illustrated the stakes of First Amendment litigation risk in designing regulatory programs.[64]

In this environment, it seems unlikely that courts would extend to confetti regulation the kind of automatic deference securities regulations have received in the past. Any opinion invalidating such a regulation would mark the continuing erosion of securities law's historically exceptional treatment under the First Amendment. Even an opinion that focused entirely on the speech status of *software* rather than the speech status of securities communications as such would demonstrate that the securities laws are vulnerable to First Amendment attacks.

It is easy to see what such a decision would look like. Suppose, for example, that the SEC adopted a rule prohibiting gamified design features—such as confetti, push notifications, and other "behavioral stimuli" that encourage trading—

62. Challengers to SEC rules and orders under the Securities Exchange Act of 1934—the Act under which confetti-regulation rules or enforcement proceedings would be implemented—have the option of petitioning for review to the D.C. Circuit, in addition to the circuit in which they reside or have their principal place of business. *See, e.g.*, 15 U.S.C. § 78y(a)(1), (b)(1) (2018). This produces a more developed case law on SEC programs about broker-dealer regulation in the D.C. Circuit than in other courts—and, when the D.C. Circuit's decisions are adverse, it potentially constrains the agency's choice set in ways other courts' decisions do not. *Cf.* Larry C. Grossman, Securities Act Release No. 10244, Exchange Act Release No. 79217, Investment Company Act Release No. 32352, 115 SEC Docket 2540, 2016 WL 6441565, at *2-3 (Nov. 1, 2016) (order granting partial stay) (noting that the agency will not always be in a position to assume that a challenger will seek to take advantage of adverse law in the D.C. Circuit, such as when the other possibly reviewing court of appeals has adverse law on an equally important issue). On agency attention to adverse court of appeals decisions, see Samuel Estreicher & Richard L. Revesz, *Nonacquiescence by Federal Administrative Agencies*, 98 Yale L.J. 679 (1989).

63. *See* Nat'l Ass'n of Mfrs. v. SEC (*NAM*), 800 F.3d 518, 521 (D.C. Cir. 2015). The rule implemented a statutory policy targeting sources of financing for violent conflict in the Democratic Republic of the Congo and mandated disclosure and reporting by securities issuers about their supply chains. *See* Conflict Minerals, 77 Fed. Reg. 56274 (Sept. 12, 2012).

64. The dissent opened with the observation that "[i]ssuers of securities must make all sorts of disclosures," and "[n]o one thinks that garden-variety disclosure obligations . . . raise a significant First Amendment problem." *NAM*, 800 F.3d at 531 (Srinivasan, J., dissenting). Not so, the majority responded: the fact that securities law "is thick" with disclosure mandates does not make those mandates immune from First Amendment scrutiny. *Id.* at 521 (majority opinion).

on the grounds that the prohibition was part of the broker's duty of care, that it was in the public interest, and that it was for the protection of investors.[65] Audiovisual content usually counts as speech, even if the message conveyed is ambiguous or thin.[66] So, too, do videogames and software.[67] Stimuli that are part of the user-interface design might therefore be characterized as being within the scope of First Amendment protection as well.

From here, once gamification is framed as falling within the First Amendment's protection, it seems all too easy to challenge a ban on that speech as one that discriminated on the basis of content or even viewpoint. Confetti in an investing app might be read to endorse trading, or perhaps day trading, as a good thing—and a regulation banning confetti in trading apps but not in other apps might be said to single out the pro-trading "message" for suppression. Or, even more simply, a ban on displays of confetti might be read as a ban on *depictions of confetti*, which are a kind of content in their own right.[68] If a court were to hold that confetti regulation is content or viewpoint discrimination, it would presumably apply strict scrutiny.[69]

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65. The SEC would have statutory authority under the same sources it relied upon to undertake the Regulation Best Interest (Reg BI) rulemaking. *See* Regulation Best Interest: The Broker-Dealer Standard of Conduct, 84 Fed. Reg. 33318, 33330 n.122 (July 12, 2019) (to be codified at 17 C.F.R. pt. 240) (citing Dodd-Frank Act Section 913(f) and Exchange Act Sections 15(c)(6) and 17).

66. *See* Hurley v. Irish-Am. Gay, Lesbian & Bisexual Grp. of Bos., 515 U.S. 557, 569 (1995); *see also* Candy Lab Inc. v. Milwaukee Cnty., 266 F. Supp. 3d 1139, 1146 (E.D. Wis. 2017) (finding protectable content in a videogame that lacked "plot, characters, or dialogue").

67. *See* Brown v. Ent. Merchs. Ass'n, 564 U.S. 786 (2011) (videogames); Universal City Studios, Inc. v. Corley, 273 F.3d 429 (2d Cir. 2001) (software).

68. *Cf.* Candy Lab Inc. v. Milwaukee Cnty., 266 F. Supp. 3d 1139, 1143 (E.D. Wis. 2017), in which the publisher of a Pokémon Go-like augmented reality game challenged an ordinance that would have required permits for "[v]irtual and location-based augmented reality games." While ultimately judging the ordinance to be content-neutral, the court also held that the game "Texas Rope 'Em" had "sufficient expressive content" to call on the First Amendment for protection: "The game immerses a player in a Western-themed virtual environment," the court noted,

> complete with a Texas-themed game title, color scheme, and graphics, allowing the player to corral favorable playing cards using an animated lasso. . . . Moreover, what Candy Lab's game lacks in compelling literary tropes, it makes up for by employing features [such as] displaying card locations on a map on the user's phone, which the user must then physically navigate to and "grab" using the phone's camera.

Id. (citation omitted).

69. If the SEC instead required investment apps to *add* design features, it could wind up in essentially the same place. Such prescriptive design requirements might be cast as a kind of "compelled speech" triggering strict scrutiny as well. *See, e.g.*, CDK Global LLC v. Brnovich, No. CV-19-04849, 2020 WL 6290386, at *2 (D. Ariz. Oct. 27, 2020). *But see* Neil Richards, *Apple's*

Securities lawyers who are acoustically separated from the technology bar—and the techno-libertarian "Californian ideology" that surrounds it[70]—underestimate these admittedly formalistic and silly-sounding arguments at their peril. Whether under the First Amendment or Section 230 of the Communications Decency Act,[71] it is routine in technology litigation to characterize controversies involving technology as implicating speech—often in abstract and unintuitive ways.[72] This kind of litigation has produced holdings that computer source code is speech,[73] that search results are akin to media editorial choice,[74] and that an online marketplace is immunized as a "publisher" for purposes of third-party tort liability.[75]

It may have been reasonable at one time to expect these concerns to largely drop away if *securities regulators* were the ones dictating elements of software design.[76] The SEC's customary jurisdiction over securities-related information may have shaped courts' and litigants' views of the salience of the First Amendment and afforded the Commission a wider constitutional berth than, say, the Consumer Product Safety Commission would have if it tried to regulate video-game design. But we think it would be unwise for the SEC to expect that kind of solicitude today.

"Code = Speech" Mistake, MIT TECH. REV. (Mar. 1, 2016), https://www.technologyreview.com/2016/03/01/161811/apples-code-speech-mistake [https://perma.cc/XC79-2BK5] (observing that the Supreme Court has not blessed the notion that computer code is speech, and criticizing the "Code = Speech" argument for its superficiality, its miscomprehension of the First Amendment, and its lack of engagement with any substantive theory of free expression).

70. *See, e.g.*, MARY ANNE FRANKS, THE CULT OF THE CONSTITUTION 165 (2019) ("Techno-libertarianism is if anything even more staunchly antiregulatory than traditional civil libertarianism."); Richard Barbrook & Andy Cameron, *The Californian Ideology*, MUTE (1995), https://www.metamute.org/editorial/articles/californian-ideology [https://perma.cc/CXT6-MNKZ] (describing the "California Ideology" as "a mix of cybernetics, free market economics, and counter-culture libertarianism").

71. 47 U.S.C. § 230 (2018).

72. *See* Alan Z. Rozenshtein, *Silicon Valley's Speech: Technology Giants and the Deregulatory First Amendment*, 1 J. FREE SPEECH L. 337, 341, 344 (2021) (noting the tendency of technology companies to "ground their constitutional arguments in free speech" and contending that "we should expect such arguments to increasingly come from technology companies").

73. *See* Bernstein v. U.S. Dep't of State, 922 F. Supp. 1426, 1434-36 (N.D. Cal. 1996).

74. *See* Langvardt, *supra* note 13, at 176 n.317 (collecting authority).

75. *See* Gartner v. Amazon.com, Inc., 433 F. Supp. 3d 1034, 1045 (S.D. Tex. 2020), *rev'd on other grounds sub nom*. McMillan v. Amazon.com, Inc., 2 F.4th 525 (5th Cir. 2021); La Park La Brea A LLC v. Airbnb, Inc., 285 F. Supp. 3d 1097, 1105-07 (C.D. Cal. 2017).

76. *See* Schauer, *supra* note 50, at 1780 ("Until the assimilation of commercial speech into the First Amendment, it would scarcely have occurred to anyone that the First Amendment could be relevant to securities regulation.").

Confetti regulations' novelty, combined with the definitional difficulties discussed above, will invite First Amendment challenges. Those challenges, in turn, may tee up opportunities for courts to confine the scope and strength of the SEC's policy mission through constitutional deregulation. A court's willingness to apply heightened scrutiny against a confetti regulation could invite more daring raids against the securities laws' core information controls, such as the Quiet Period in initial public offerings.[77] At worst, a court may condemn large swaths of securities law as paternalistic and incompatible with the First Amendment's presumed market-fundamentalist commitments.[78]

III. IMPLICATIONS

In this Part, we discuss the implications of our argument for regulatory interventions against gamification in stock-trading apps. Securities law should avoid attracting unwelcome attention by courts engaged in a project of constitutional deregulation. We therefore urge regulators to think of gamification—and other digital-engagement practices more broadly—in terms of well-grounded legacy doctrines like churning and the duty of quantitative suitability that go to reducing the conflicts of interest inherent in brokerage.

A. The Securities Laws and the First Amendment

In light of the First Amendment's increasingly antiregulatory orientation where business interests are concerned, securities law's historically light First Amendment coverage looks increasingly exceptional. "Securities regulation," Roberta Karmel observed over thirty years ago, "is essentially the regulation of speech."[79] The days are gone when the D.C. Circuit might uphold disclosure requirements on the basis of "the federal government's broad powers to regulate the securities industry."[80]

What could happen if confetti regulation (or some other trigger) led courts to start treating the securities laws like other burdens on speech? In our view,

77. *See, e.g.*, Heyman, *supra* note 52, at 195 (arguing that "if Quiet Period Rules are ultimately subject to strict scrutiny review," they "would have virtually no chance of surviving"); *see also infra* notes 81-83.

78. *See Cf.* Citizens United v. Fed. Election Comm'n, 558 U.S. 310, 356 (2010) (rejecting the power of the government to restrict political speech in the context of campaign finance).

79. Roberta S. Karmel, *The First Amendment and Government Regulation of Economic Markets*, 55 BROOK. L. REV. 1, 1 (1989).

80. SEC v. Wall St. Publ'g Inst., Inc., 851 F.2d 365, 372 (D.C. Cir. 1988) (applying rational-basis review to a Commission enforcement action for injunctive relief requiring a magazine to disclose the receipt of different forms of consideration for recommending securities).

robust expansion of the antiregulatory First Amendment to other traditional areas of economic regulation—like the securities laws—would be destabilizing and undesirable for its substantive effects on markets and its erosion of democratic control over the economy.

The securities laws use a number of prototypical regulatory tools like mandatory disclosure and restraints on fraudulent communications. But perhaps the most at-risk targets of constitutional raids are the securities laws' restrictions on expressive and truthful commercial speech in the areas of professional advice and securities offerings. Regulation Best Interest (Reg BI), for example, codifies care and conflict-of-interest obligations of broker-dealers in making recommendations to retail customers.[81] Meanwhile, the Securities Act of 1933 and its implementing regulations prohibit most truthful communications to prospective investors until the agency takes a triggering action on a registration statement.[82] The general exception is when issuers comply with narrow content-based exemptions that purport to allow particular kinds of speech (as in the safe harbors during the Quiet Period before the effective date of a registration statement) or speech to a restricted audience (as in a private offering for which general solicitation is not allowed).[83]

In short, confetti regulation, as we have described it, would draw a potentially broad range of First Amendment attacks. Of course, the SEC could promulgate confetti regulations and seek to defend these in court. While it is risky business to predict what courts will do, the agency has had a poor track record in rulemaking and enforcement before the Supreme Court and the D.C. Circuit

81. *See* Regulation Best Interest: The Broker-Dealer Standard of Conduct, 84 Fed. Reg. 33318, 33320 (July 12, 2019) (to be codified at 17 C.F.R. pt. 240).

82. *See* 15 U.S.C. § 77e(a), (c) (2018) (prohibiting sales of securities until the registration statement is effective and offers to sell or buy securities until the registration statement is filed); *id.* § 77e(b)(1) (prohibiting the transmission of certain noncompliant prospectuses after the registration statement has been filed); *see also, e.g.*, Henry N. Butler & Larry E. Ribstein, The Corporation and the Constitution 102-03 (1995) (noting that the Securities Act of 1933's provisions "reduc[e] the flow of information from established issuers" during the registration process and "compel[] . . . firms to deliver . . . disclosures" in the form of prospectuses).

83. The SEC has promulgated rules creating these exceptions under the Securities Act of 1933. *See, e.g.*, 17 C.F.R. § 230.163B (2020) (establishing the testing-the-waters safe harbor for communications during the prefiling period with qualified institutional buyers and institutional accredited investors); *id.* § 230.433 (establishing the free-writing-prospectus safe harbor); *id.* §§ 230.502(c), 506(b) (2021) (prohibiting general solicitation in Regulation D private offerings under § 506(b) where not all purchasers are accredited investors); *see also* Heyman, *supra* note 52, at 193-206 (describing the Quiet Period Rules and some of these exemptions); sources cited *supra* note 52.

in recent years.[84] With these courts attuned to perceived agency overreach, challenges to confetti regulation on First Amendment grounds might receive a welcome audience.

In one scenario, decisions vacating confetti-regulation rulemaking or enforcement proceedings on First Amendment grounds could erode courts' historical recognition of the public interest in regulating speech in capital markets. That erosion would lead to sharper constitutional constraints on securities regulation's disclosure and information-control provisions more generally.[85] In another scenario, courts might reason about the First Amendment status of confetti in ways that would implicitly, perhaps inadvertently, elevate the First Amendment status of securities information. Suppose, for example, that an SEC-sympathetic court decided to uphold confetti regulation as something akin to a time-place-manner law—the kind of law that does not discriminate against the content of any message, but merely regulates the mode in which the message is presented.[86] That argument would nevertheless imply that there *was* a message in the underlying securities communications—and more to the point, that garden-variety securities communications lie within the realm of First Amendment protection.

First Amendment litigation may ultimately move the law in this direction no matter what. But securities regulators do have some control over the pace of change. Provocative incursions into the law of software will intensify the deregulatory barrage and accelerate the damage. We therefore suggest that regulators design policy with a goal of constitutional avoidance in mind—at least for now, while the First Amendment's doctrinal trendlines look relatively threatening to economic policy.[87]

84. *See supra* note 15.

85. *But see* Schauer, *supra* note 50, at 1780 (noting that, despite previous warnings by academics and practicing lawyers, a "collision never happened" between securities regulation and the First Amendment).

86. *See, e.g.*, *Ward v. Rock Against Racism*, 491 U.S. 781 (1989) (upholding as a time-place-manner regulation New York City's requirement that musical performers in a Central Park bandshell use sound equipment and technical support furnished by the city).

87. On the merits of constitutional avoidance at the agency level, compare Gillian E. Metzger, *Ordinary Administrative Law as Constitutional Common Law*, 110 COLUM. L. REV. 479, 527-30 (2010), which suggests that "encouraging agencies to take constitutional concerns into account is likely to prove a valuable mechanism for ensuring effective constitutional enforcement in administrative contexts," with Christopher J. Walker, *Avoiding Normative Canons in the Review of Administrative Interpretations of Law: A* Brand X *Doctrine of Constitutional Avoidance*, 64 ADMIN. L. REV. 139, 142, 161, 178 (2012), which suggests that while agencies may have "comparative institutional strengths" to promulgate *Chevron*-deference-eligible rules that "avoid constitutional questions in the first place," the possibility that courts might apply the "classical constitutional avoidance [canon] at *Chevron* step two should be sufficient to ensure

We are suggesting, in other words, that regulators kick the First Amendment can down the road. Regulators should address applicable harms from gamification through the familiar methods and techniques of securities law without creating a target-rich environment for these kinds of challenges and outcomes.

B. Behavioral Design and Regulatory Choice

What is left after confetti regulation is taken off the table? Securities law already offers rich doctrinal frameworks and normative principles for addressing potentially objectionable behavioral design in retail-investing apps. In our view, a pair of traditional doctrines—the prohibition against churning, and the "quantitative suitability" component of the broker's duty of care—illustrate securities law's normative concern that eliciting overtrading in a retail investor's account is undesirable where it leads to capital losses or principal depletion. These doctrines are not specific to behavioral design, but they do capture a large share of what is troubling about it.

Churning occurs when a broker-dealer "seeks to maximize . . . remuneration in disregard of the interests of the customer," such as where a broker with discretionary control over an account trades excessively to generate commission revenue.[88] Zero-commission investment apps with gamification features promote the same kind of overtrading that was the core harm at issue in churning, but in a self-directed account. Even without commissions, the revenue model generates the same result: the broker maximizes PFOF revenue from other market intermediaries who want to trade against retail investors.[89]

Gamification can thus be understood as a means for the broker-dealer to maximize revenue by driving unsophisticated retail investors to overtrade. This strategy, which we call *behavioral churning*, exploits behavioral psychology to drive engagement with the platform, increasing consumption of high-volatility speculative trading in ways that produce a discreet but often sizable stream of revenue for the broker.. In this view, behavioral churning provides a framework not only for scholarly work in this area, but also for potential regulatory responses.[90]

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that the Executive fulfills its constitutional duty to interpret statutes within actual constitutional limits" without imposing a duty of constitutional avoidance at the agency level.

88. 8 LOUIS LOSS, JOEL SELIGMAN & TROY PAREDES, SECURITIES REGULATION 471, 475 (2020); *see, e.g.*, Mihara v. Dean Witter & Co., 619 F.2d 814, 820-21 (9th Cir. 1980) (describing the elements of a churning claim).

89. *See supra* notes 24-26 and accompanying text.

90. *See, e.g.*, Alessio M. Pacces, *Financial Intermediation in the Securities Markets Law and Economics of Conduct of Business Regulation*, 20 INT'L REV. L. & ECON. 479, 490-99 (2000) (offering

Churning doctrine itself historically applied where brokers had discretionary control over trading in the client's account. So to address the harm from behavioral churning in client-directed accounts, regulators might look to quantitative-suitability doctrine. The SEC codified this doctrine as a component of the broker's duty of care under Reg BI.[91] Under that duty, broker-dealers must have a reasonable basis to believe that a series of recommended transactions – considered together – is not excessive in light of the retail customer's investment goals, and does not put the broker's financial interests ahead of the customer's.[92] To the extent that gamification features fall within the definition of "recommendations" to retail customers, then the Reg BI duty of care would prohibit a business model that encourages behavioral overtrading to generate PFOF revenue without regard to whether that level of trading activity is in the customer's interest.

Regulators and scholars would have to grapple with a number of objections to the quantitative suitability approach to behavioral churning. For instance, the Reg BI duty applies not to self-directed trades, but only to the broker's recommendations.[93] When can gamification objectively be understood as a kind of "recommendation" – a malleable concept roughly meaning a call to action that influences a trade decision – based on tailored and individualized advice?[94] Some design features by their terms express a call to action, like a push notification sent to new users who had not yet traded in their account: "Choosing stocks is hard. 💪 Get started by checking which stock prices are changing the most."[95]

Regulators have warned the brokerage industry about digitally mediated recommendations for decades. In 2001, FINRA's predecessor issued a notice,

economic model of churning doctrine relative to noise trading and broker-compensation incentives); *see also* Tierney, *supra* note 13, at 49-55 (examining "normative polic[ies]" and doctrinal "legacy devices" in securities law that may permit regulators to discourage brokerage sales practices that elicit high-volume order flow "by those who do not know better and are discouraged from learning better").

91. Regulation Best Interest: The Broker-Dealer Standard of Conduct, 84 Fed. Reg. 33318, 33384-85 (July 12, 2019) (to be codified at 17 C.F.R. pt. 240).

92. *See id*. In importing quantitative suitability into Reg BI, the SEC abandoned the control element that had been a traditional requirement of churning doctrine and of FINRA's suitability rule. *See id.*

93. *See id*. at 33334-35, 33384 (explaining that Reg BI is focused on "a particular recommendation" but does not "apply to self-directed or otherwise unsolicited transactions by a retail customer, whether or not he or she also receives separate recommendations from the broker-dealer").

94. *See id.* at 33335 (stating that whether a communication is a "recommendation" involves a facts-and-circumstances inquiry into whether it "reasonably could be viewed as a call to action and reasonably would influence an investor to trade a particular security or group of securities" (internal quotations omitted)).

95. Felix Salmon, *Robinhood Accused of Securities Law Violations*, AXIOS (Dec. 17, 2020), https://www.axios.com/robinhood-sec-lawsuit-massachusetts-violations-trading-6d349c57-c138-441d-a263-d5a225823dfa.html [https://perma.cc/ESD8-WC6U].

approved by the SEC and having force of law, about online communications that would generally be "recommendations."[96] Two of the examples were "customer-specific . . . pop-up screen[s]," and lists of securities for which the broker makes a market.[97] In this way, securities law has previously concerned itself with the antecedents of behavioral churning—and currently frames it as a recommendation in violation of the quantitative suitability component of the Reg BI duty of care.

But even this kind of theory implicates the First Amendment concerns we have articulated. Professional-advice speech like this is not obviously less "expressive" than a flurry of confetti, so constitutional risk remains a factor. A strategy of avoiding constitutional deregulation would counsel toward adopting or enforcing existing securities laws in ways that do not turn factually on the "speech" embodied in behavioral-design features.

CONCLUSION: TOWARD A THEORY OF BEHAVIORAL DESIGN AND THE SECURITIES LAWS

We have offered a preliminary sketch of the problem of gamification as behavioral churning. But it raises a number of theoretical, empirical, and regulatory-design implications. Given the scope of this Essay, we only briefly address them here.

We have assumed, as a normative matter, that it is appropriate to regulate behavioral design in zero-commission investing apps. There are other plausible theoretical justifications for doing so besides the "problem use" harm—such as their tendency to promote imprudent investing practices and their macroscale effects on asset allocation and market quality.[98] But if behavioral churning is an adequate and settled basis for regulation, do these additional theories add, at the margin, any justificatory value or new objects for regulatory choice?

Gamification raises other important questions for securities-regulation theory. Consider two of the securities laws' core aims: promoting competition and

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96. *See NASD Notice to Members 01-23*, FINRA (Apr. 2001), https://www.finra.org/sites/default/files/NoticeDocument/p003887.pdf [https://perma.cc/86GS-4YHE]; Self-Regulatory Organizations; Notice of Filing and Immediate Effectiveness of Proposed Rule Change by National Association of Securities Dealers, Inc. Relating to the Suitability Rule and Online Communications, 66 Fed. Reg. 20697, 20697 (Apr. 24, 2001).

97. *NASD Notice to Members 01-23*, *supra* note 96, at 3.

98. *See, e.g.*, Tierney, *supra* note 13, at 24-28.

protecting investors.[99] These aims are somewhat in tension. Competitive pressure may channel innovation toward attractive user-experience design that extracts a long stream of small payments on nonsalient product attributes.[100] How should securities law weigh its normative goals with respect to that outcome?

In addition, some investors engage in maladaptively excessive trading as consumption of sensation or risk. But it does not necessarily follow that securities law should be designed to support (or hinder) that kind of trading. Rather, the desirability of regulatory interventions specifically targeted at retail trading behavior will depend on our view of the normative end goals of securities law's "investor protection" regulatory mission.[101] If those goals include encouraging responsible investing, regulators might even grow to appreciate prosocial or "white hat" gamification—akin to nudges that attempt to intervene in behavior with carefully designed defaults.[102] SEC Commissioner Hester Peirce, for instance, has expressed optimism about that prosocial use of financial-regulatory technology.[103]

As a matter of regulatory design, we have focused only on one harm and one regulatory solution. The question of regulatory technique is more complex. Other factors besides the problem use harm may bear on the desirability of regulating gamification, given the trade-offs and constraints we have identified in this Essay. Might other harms be better addressed through other regulatory techniques?

In our preliminary view, the most politically salable and administratively simple approaches will tend to involve the greatest litigation risk from deregulatory constitutional challenges. At one extreme, banning PFOF would require

99. *See, e.g.*, Robert J. Jackson, Jr., *Competition: The Forgotten Fourth Pillar of the SEC's Mission*, SEC. & EXCH. COMM'N (Oct. 11, 2018), https://www.sec.gov/news/speech/speech-jackson-101118 [https://perma.cc/T4D5-8NYZ].

100. *See* Langvardt, *supra* note 13, at 134-41.

101. For examples of the debate as applied to retail-investor speculative trading, compare Lynn A. Stout, *Are Stock Markets Costly Casinos? Disagreement, Market Failure, and Securities Regulation*, 81 VA. L. REV. 611, 702 (1995), which argues that "deter[ring] speculation by taxing or prohibiting stock trading will produce net welfare gains," with Paul G. Mahoney, *Is There a Cure for "Excessive" Trading?*, 81 VA. L. REV. 713, 716 (1995), which argues that a better approach would be to remove market subsidies for excessive trading before "attempting to raise the costs of trading through taxes or other means."

102. *See, e.g.*, Cynthia Weiyi Cai, *Nudging the Financial Market? A Review of the Nudge Theory*, 60 ACCT. & FIN. 3341, 3357-63 (2019); Nick Maynard & Mariele McGlazer, *The Gamification Effect: Using Fun to Build Financial Security*, FED. RSRV. BANK BOS. 6 (Spring 2017), https://www.bostonfed.org/-/media/Documents/cb/2017/spring/the-gamification-effect-using-fun-to-build-financial-security.pdf [https://perma.cc/XFZ7-FACL].

103. *See, e.g.*, Hester M. Peirce, *🚀Atomic Trading🚀*, SEC. & EXCH. COMM'N (Feb. 22, 2021), https://www.sec.gov/news/speech/peirce-atomic-trading-2021-02-22 [https://perma.cc/748H-YDFW].

rulemaking and probably inspire a consumer backlash by making the zero-commission model infeasible. But it would not provoke any conceivable First Amendment challenge. At the opposite end of the spectrum, regulators might bring enforcement actions under existing rules against firms that throw confetti following a trade. This technique could launch a whole quiver of not-quite-frivolous First Amendment arguments, some of which may well hit their mark.

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