May 11, 2022

Commodity Futures Trading Commission
Office of Public Affairs
Three Lafayette Centre
1155 21st Street, NW Washington, DC 20581

Re: Request for Comment on FTX Request for Amended DCO Registration Order

Ladies and Gentleman:

Better Markets[1] appreciates the opportunity to comment on the above-captioned request for comment ("Request") issued by the Commodity Futures Trading Commission ("CFTC" or "Commission").[2] The Request arises from an application by FTX ("Application")[3] to amend its order of registration as a derivatives clearing organization ("DCO"). FTX's Application requests that the CFTC amend its registration order to allow it to clear non-intermediated, margined products, specifically Bitcoin futures, 24 hours a day, 7 days a week, 365 days a year.[4] During that time, FTX "will assess its customers' abilities to meet their margin requirements approximately once per second" and "implement real-time market monitoring tools to immediately react to market changes and avoid major risks to clearinghouse stability," i.e., immediate, intra-second auto-liquidation of customers' margin.

While we fully support genuinely beneficial innovation and proposed private sector solutions to market failures, including anti-competitive market power and concentration, the FTX Application raises a host of serious concerns that the CFTC has a statutory duty to robustly evaluate. The CFTC must ensure, throughout that evaluation, that the protection of customers and market participants—and limiting if not reducing systemic risks—remain the paramount concerns. Merely touting, as FTX does, easier access to markets, increased customer choice, and "an

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1 Better Markets is a non-profit, non-partisan, and independent organization founded in the wake of the 2008 financial crisis to promote the public interest in the financial markets, support the financial reform of Wall Street, and make our financial system work for all Americans again. Better Markets works with allies—including many in finance—to promote pro-market, pro-business, and pro-growth policies that help build a stronger, safer financial system that protects and promotes Americans' jobs, savings, retirements, and more.

2 CFTC, Request For Comment on FTX Request for Amended DCO Registration Order (Mar. 10, 2022), https://www.cftc.gov/PressRoom/PressReleases/8499-22.

3 FTX, Letter Re: Permissibility and Benefits of Direct Clearing Model under the Commodity Exchange Act and CFTC Regulations (Feb. 8, 2022), *available at* https://sirt.cftc.gov/sirt/sirt.aspx?Topic=CommissionOrdersandOtherActionsAD&Key=47841.

4 Request at 2.

attractive user experience" (which themselves raise several concerns) are decidedly insufficient grounds to grant the Application.

For example, while immediate auto-liquidation of customer margin may protect the clearing house and FTX, it could result is massive customer losses, not that different from the losses retail customers sustained from risky trading in 2021, including the GameStop trading frenzy in January 2021 and a boom in retail trading in risky options, both facilitated by Robinhood, which made the same claims about choice and access.[5] Put differently, the risk-reducing features to protect the clearing house and FTX come at the direct expense of FTX's customers. Therefore, FTX should be required to promptly undertake and publicly disclose how its proposed system would have worked over the last several weeks of dramatic volatility in terms of second-by-second auto-liquidation, including but not limited to showing the timing and amounts of customer losses. The customer base used for this pro forma analysis should correlate to FTX's revenue and budget projections by customer cohort for the next 1, 3 and 5 years, which it, of course, has done and is readily available to it.[6]

That analysis and information are imperative given recent and historic market events and volatility, including a recent plunge in price that has been described as "carnage" by CNBC and others, proving those concerns are well-grounded:[7]

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5 *See* Dennis M. Kelleher, Jason Grimes & Andres Chovil, *Democratizing Equity Markets With and Without Exploitation: Hedge Funds, Gamification, High Frequency Trading, and More*, 44 WNE L. Rev. (forthcoming July 2022), current draft attached as an Exhibit to this letter; *see also* Vildana Hajric, *Mom and Pop Investors Took a Bath Trading Options During Pandemic*, BLOOMBERG (Apr. 27, 2022), https://www.bloomberg.com/news/articles/2022-04-27/mom-and-pop-took-a-billion-dollar-bath-trading-pandemic-options?sref=mtQ4hc2k.

6 Of course, this analysis will require some assumptions or estimates regarding margin amounts, customer financial capacity to increase margin, customer ability to monitor 24/7, etc., which FTX should clearly disclose as well as undertake alternate scenarios.

7 *See also*, Yoel Minkoff, *Crypto Carnage: Bitcoin Under $34K, Down 50% From All-Time High*, Seeking Alpha (May 9, 2022), https://seekingalpha.com/news/3834779-crypto-carnage-bitcoin-under-34k-down-50-from-all-time-high.

Our foremost concern is that the Application will facilitate and greatly increase retail trader speculation in the extraordinarily risky cryptocurrency futures markets, and that it will be based more on enticing, if not predatory, digital engagement practices and slick marketing than informed financial decision making. That, of course, would be at odds with the fundamental purposes and historical roots of the futures markets as hedging and price discovery venues for commercial enterprises, not retail traders in gambling casinos. Moreover, that would violate the other basic purposes of the Commodity Exchange Act ("CEA") as well:

> "to deter and prevent price manipulation or any other disruptions to market integrity; to ensure the financial integrity of all transactions … and the avoidance of systemic risk; to protect all market participants from ***fraudulent or other abusive sales practices*** …; and to promote responsible innovation and fair competition…."[8]

In addition, FTX's proposed model may lead to the concentration of systemic risk, particularly if it is copied and becomes the dominant model for trading and clearing futures contracts. While FTX claims its proposed clearing platform will be a more efficient and competitive way of trading futures contracts for retail investors and that it will do so without unduly intensifying investor harm or systemic instability, the CFTC must fully, independently,

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[8] 7 U.S.C. § 5(b) (emphasis added).

robustly, and carefully evaluate the proposal and all of these concerns before ruling on it, in accordance with the principles set forth below.

OVERVIEW OF THE FTX APPLICATION

Currently, the predominant model is for DCOs to clear intermediated, margined products. In this model, futures commission merchants ("FCMs") stand between a futures customer and the DCO, i.e. the FCM is the direct clearing member of the DCO, and it guarantees its customers' obligations to the DCO.[9] Moreover, under this model, potential losses from defaults are mutualized among the FCM clearing members. In contrast, under a non-intermediated model, there is no FCM standing between market participants and the DCO, but "all market participants are clearing members of the DCO."[10] Under an intermediated model, the DCO is exposed to the credit risk of the FCMs that are clearing members; under a non-intermediated model, the DCO is exposed to the credit risk of the market participant. There are four DCOs that offer a non-intermediated model (including FTX), but only for fully collateralized trades, meaning the DCO is not exposed to any credit risk from its members.[11] Another DCO clears non-intermediated, margined products, but only for "individuals or entities with a high net worth or that own substantial assets."[12]

As FTX explains in the Application and in a separate letter on financial resource requirements ("Financial Resource Letter"),[13] FTX proposes to offer non-intermediated, margined trading, including for retail participants, with no financial resource requirements except that the customer be able to post the required margin for a given position.[14] FTX proposes to account for the potential credit risk presented under this model by implementing what would be in effect a constant or real-time margin updating system. According to its Application, FTX "will assess its customers' abilities to meet their margin requirements approximately once per second."[15] If a customer's maintenance margin falls below required thresholds, FTX will liquidate its customers positions, 10% at a time, either by placing offsetting orders on the central limit order book or by attempting to lay off those positions with backstop liquidity providers, until the customer meets the margin requirements.[16] FTX will also have a "full liquidation" threshold—if a customer's margin falls below that threshold, the entire portfolio is liquidated.[17] FTX would not mutualize losses among clearing members; instead, any losses not covered by a members' margin on deposit

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9 Request at 1.
10 Request at 1.
11 Request at 1.
12 Request at 1.
13 FTX, Letter Re: Financial Resource Requirements under Core Principle B and CFTC Regulation 39.11(a)(1) in the Absence of Clearing Futures Commission Merchants (Feb. 8, 2022), https://sirt.cftc.gov/sirt/sirt.aspx?Topic=CommissionOrdersandOtherActionsAD&Key=47841.
14 Request at 2.
15 Application at 1.
16 Request at 2.
17 Request at 2.

would be covered by the backstop liquidity providers, or by a $250 million guaranty fund FTX will establish.[18]

BACKGROUND

Bitcoin's Humble Beginning and Skyrocketing Value

The concept of a cryptocurrency was first introduced in 2008, with the publication of a white paper by an author or group of authors going by the pseudonym "Satoshi Nakamoto."[19] That paper contemplated a purely electronic payment system that would eliminate the need for a "trusted third party" to verify transactions by instead relying on "cryptographic proof" through a network that "timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work." This envisioned system thus presented a solution to the "double spending problem" that would otherwise result from eliminating trusted intermediaries from the payment process.[20] The progenitors of the concept coined the name "Bitcoin" for the digital token that would serve as the "money" in this framework.

In the years since the concept was first introduced, Bitcoin and other cryptocurrencies "have moved from being an obscure, skeptically-viewed theoretical side project to a household asset, capturing headlines, public dialogue, and the interest of major tech corporations."[21] That rise in visibility has been accompanied by a stratospheric and volatile rise in price. As the New York Times documented, in May 2010, just a few months after a "marketplace was established" for Bitcoin, a person claimed to use 10,000 Bitcoin to buy pizza.[22] However, others warned him that he may have overpaid because he could have gotten $41 for selling those 10,000 Bitcoin.[23] Around a year later, in April 2011, that 10,000 Bitcoin was worth approximately $10,000; just a few months later, in June 2011, that 10,000 Bitcoin would be worth nearly $300,000.[24] When the CFTC first asserted jurisdiction over Bitcoin as a commodity under the CEA, in an enforcement

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18 Request at 2.

19 Satoshi Nakomoto, *Bitcoin: A Peer-to-Peer Electronic Cash System* (2008), https://Bitcoin.org/Bitcoin.pdf.

20 Satoshi Nakomoto, *Bitcoin: A Peer-to-Peer Electronic Cash System* 1 (2008), https://Bitcoin.org/Bitcoin.pdf.

21 BETTER MARKETS, FACT SHEET: CRYPTOCURRENCIES—THE NEXT BIG THING OR THE NEXT GOLD RUSH (Mar. 9, 2022), https://bettermarkets.org/wp-content/uploads/2022/03/BetterMarkets_FactSheet_Cryptocurrencies_3-9-2022.pdf.

22 *An Abridged History of Bitcoin*, N.Y. TIMES (Nov. 19, 2013), https://archive.nytimes.com/www.nytimes.com/interactive/technology/Bitcoin-timeline.html#/#time284_8155;

23 laszlo, *Pizza for Bitcoins?*, BITCOIN FORUM (May 18, 2010), https://Bitcointalk.org/index.php?topic=137.msg1195#msg1195.

24 John Edwards, *Bitcoin Price History*, Investopedia (Feb. 10, 2022) ("Bitcoin's price rose again on April 13, 2011, from $1 to a peak of $29.60 by June 7, 2011, a gain of 2,960% within three months."), https://www.investopedia.com/articles/forex/121815/Bitcoins-price-history.asp

action against Coinflip, Inc. issued on September 17, 2015,[25] that 10,000 Bitcoin would have been worth nearly $2.3 million.[26] And when the Chicago Mercantile Exchange and CBOE Futures Exchange self-certified the first Bitcoin futures contracts on December 1, 2017, that 10,000 Bitcoin would have been worth over $100 million.[27] As of May 10, 2022 that 10,000 Bitcoin would have been worth over $300 million.[28] In other words, in May 2011 a person may have overpaid a little bit by paying 10,000 Bitcoin for a Papa John's pizza; by May 2022, for that same 10,000 Bitcoin, that person could have bought more than a 10% stake of Papa John's (or a large number of Papa John's franchises).[29]

Vague Future Promise, Real Present Concerns

As cryptocurrency and associated technologies such as the blockchain have become more mainstream, enthusiasts have zealously argued that they offer the potential to revolutionize the financial system, largely by eliminating the need for intermediaries to facilitate financial transactions.[30] Doing so, according to enthusiasts, will not only make financial transactions more efficient but will also enable greater access to the financial system, and the wealth-building opportunities it provides, for the unbanked and underbanked.[31] Further, the argue, by helping the poor gain access to the wealth-building opportunities in the financial system, cryptocurrency will

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25 *In re Coinflip, Inc.*, CFTC No. 15-29 (Sept. 17, 2015), https://www.cftc.gov/sites/default/files/idc/groups/public/@lrenforcementactions/documents/legalpleading/enfcoinfliprorder09172015.pdf.

26 Yahoo! Finance, Bitcoin Price History for September 17, 2015 (last accessed May 5, 2022), https://finance.yahoo.com/quote/BTC-USD/history?period1=1442448000&period2=1442448000&interval=1d&filter=history&frequency=1d&includeAdjustedClose=true.

27 Yahoo! Finance, Bitcoin Price History for September 17, 2015 (last accessed May 5, 2022), https://finance.yahoo.com/quote/BTC-USD/history?period1=1512086400&period2=1512086400&interval=1d&filter=history&frequency=1d&includeAdjustedClose=true.

28 Yahoo! Finance, Bitcoin Price History for May 11, 2021 to May 10, 2022 (last accessed May 11, 2022), https://finance.yahoo.com/quote/BTC-USD/history/?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAANBasIy2cUlyoDZpQABiUNEI3Ly6cFE1assWSkBkm4GF_p_m3g0V04Wx1VX6LYzfa3tV0eDrxoCr_SeR7-B3ooRF9WVsCtDJDBb-IskV1TlGicVD956oAXGCdhA54922i6VPPmTia2m0Hz28Wt5AHL9Eud28L-kR1AGptiaGhcou.

29 MacroTrends, Market Capitalization for Papa John's on May 10, 2022 (last accessed May 11, 2022), https://www.macrotrends.net/stocks/charts/PZZA/papa-johns/market-cap.

30 *See* Better Markets, Fact Sheet: Cryptocurrencies—The Next Big Thing Or The Next Gold Rush 2 (Mar. 9, 2022) (explaining that the claim of cryptocurrency enthusiasts is "if an algorithm can be relied upon to provide a financial product or service securely and verifiably, then there is no need for the infrastructure and personnel of the traditional financial system, and individual providers of financial products or services can interact directly with individual consumers. For example, stocks could be bought and sold without the presence of a broker-dealer, or a loan could be made without a bank or even a dedicated peer-to-peer lending platform."), https://bettermarkets.org/wp-content/uploads/2022/03/BetterMarkets_FactSheet_Cryptocurrencies_3-9-2022.pdf.

31 *See* John O. McGinnis & Kyle Roche, *Bitcoin: Order Without Law in the Digital Age,* 94 IND. L.J. 1497, 1531 (2019).

serve as a tool of social justice by helping reduce inequality, allowing marginalized communities, such as Black and Latino Americans and the LGBTQ communities, "to build wealth in communities that have been left out of the discriminatory banking system that we have today."[32]

It is true that cryptocurrencies, and in particular the associated technologies such as the blockchain, *may* have the potential to make access to finance more efficient and equitable by eliminating the need for intermediaries to process financial transactions.[33] Cryptocurrencies may realize these lofty goals, in some form and to some extent, at some indeterminate point in the future, but this is far from a guarantee, particularly if cryptocurrency markets continue to operate with little consistent regulation or oversight.[34] Indeed, in some ways the current state of the cryptocurrency market is directly at odds with what many proponents believe to be its potential benefits. For example, Bitcoin was conceived as a way to eliminate the necessity for intermediaries to conduct financial transactions. However, as cryptocurrency has become more popular, people are increasingly relying on intermediaries to buy and sell the cryptocurrency. These include more recent entrants like FTX and Coinbase with a specific focus on cryptocurrency, along with more established intermediaries such as Fidelity and Goldman Sachs.[35]

Cryptocurrencies have also been hailed as an innovation that can help combat economic inequality, although some fear that they may also contribute to inequality, rather than reducing it:

> "Ironically, rather than truly democratizing finance, some of these innovations may exacerbate inequality. Unequal financial literacy and digital access might result in sophisticated investors garnering the benefits while the less well off, dazzled by new technologies, take on risks they do not fully comprehend.[36] Computer algorithms could worsen entrenched racial and other biases in credit scoring and

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32 Marquise Francis, *"Bitcoin is Absolutely a Tool for Social Justice": Ex-Government Regulator Turned Crypto Adviser*, Yahoo! News (Jan. 15, 2022), https://news.yahoo.com/Bitcoin-tool-for-social-justice-ex-government-regulator-turned-crypto-adviser-123417764.html.

33 The idea of a blockchain, or decentralized ledger, actually predates the introduction of Bitcoin by some 27 years, having first been introduced in 1991 in a paper on timestamping digital documents. *See* John Bogna, *What is the Blockchain and What is it Used For*, PCMAG (Jan. 24, 2022), https://www.pcmag.com/how-to/what-is-the-blockchain-and-whats-it-used-for.

34 *See Testimony of Chairman Rostin Behnam Regarding "Examining Digital Assets: Risks, Regulation, and Innovation"* (Feb. 9, 2022) ("I also believe that in order to reach the lofty goals that many of the technology's most ardent proponents advocate, it is important that we find ways to sensibly bring this emerging market within the regulatory fold."), https://www.cftc.gov/PressRoom/SpeechesTestimony/opabehnam20.

35 *The New Crypto Economy Could Use a Cop on the Beat*, BLOOMBERG OPINION (Aug. 11, 2021) ("On the contrary, they have presented opportunities for the financial intermediaries they were supposed to disrupt."), https://www.bloomberg.com/opinion/articles/2021-08-11/regulating-Bitcoin-the-crypto-economy-needs-a-cop-on-the-beat?sref=mtQ4hc2k.

36 *See* Dennis M. Kelleher, Jason Grimes & Andres Chovil, *Democratizing Equity Markets With and Without Exploitation: Hedge Funds, Gamification, High Frequency Trading, and More*, 44 WNE L. Rev. (forthcoming July 2022), current draft attached as an Exhibit to this letter.

> financial decisions, rather than reducing them. The ubiquity of digital payments could also destroy any remaining vestiges of privacy in our day-to-day lives."[37]

Ultimately, whatever its promise and future holds, the characteristics that currently define the cryptocurrency landscape raise more troubling concerns than reasons for optimism. Many of those concerning characteristics are directly relevant to FTX's pending application.

Volatility

As indicated above, Bitcoin's price has risen astronomically since it was introduced—in 2011, 10,000 Bitcoin was enough to buy a pizza, but just 12 years later that same amount was worth hundreds of millions of dollars. But that astronomical price increase has not simply been a steady, if rapid, rise; instead, it has been a highly unpredictable trajectory, characterized by sudden, rapid rises in price often followed by drastic, sudden slumps.[38] For example, from April 2011 to June 2011, Bitcoin's price rose 2,960% from $1 to $29.60; by November 2011, it was trading at $2.05:[39]

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[37] Eswar Prasad, *The Brutal Truth About Bitcoin*, N.Y. TIMES OPINION (Jun. 14, 2021), https://www.nytimes.com/2021/06/14/opinion/Bitcoin-cryptocurrency-flaws.html (footnote added).

[38] Some of these sudden drops may be considered "flash crashes" in which a market anomaly (such as a large sell order, or a "fat finger" trade) causes a sudden drop in price, which often rebounds shortly thereafter. *See* Nick Baker, *How Crypto Exchanges Could Stop Flash Crashes if They Wanted To*, BLOOMBERG LAW (Oct. 23, 2021), https://news.bloomberglaw.com/banking-law/crypto-exchanges-can-stop-flash-crashes-if-they-want-will-they.

[39] John Edwards, *Bitcoin Price History*, Investopedia (Feb. 10, 2022), https://www.investopedia.com/articles/forex/121815/Bitcoins-price-history.asp; Blockchain.com Historical Bitcoin Price, April 1, 2011 to Nov. 30, 2011 (last accessed May 11, 2011), https://www.blockchain.com/prices/BTC?from=1301673600&to=1322672400&timeSpan=custom&scale=0&style=line.

By December 1, 2017, when Bitcoin futures were self-certified, Bitcoin closed just under $11,000. A few weeks later, it had skyrocketed to over $19,000, before plummeting back below $7,000 in February 2018, and finishing out 2018 below $4,000:[40]

40 Blockchain.com Historical Bitcoin Price, December 1, 2017 to December 31, 2018 (last accessed May 11, 2011), https://www.blockchain.com/prices/BTC?from=1511888400&to=1546275600&timeSpan=custom&scale=0&style=line.

And while the 10,000 Bitcoin would be worth less than $300 million as of May 10, 2022, on November 8, 2021, just over six months ago, that same amount would have been worth over $675 million.[41]:

41 Blockchain.com Historical Bitcoin Price, December 1, 2017 to December 31, 2018 (last accessed May 11, 2011), https://finance.yahoo.com/quote/BTC-USD/history?period1=1609372800&period2=1652054400&interval=1d&filter=history&frequency=1d&includeAdjustedClose=true.

Indeed, in just the three weeks preceding the date of this letter, Bitcoin has plummeted from over $40,000 to under $30,000,000 on May 11, 2022.[42] Ultimately, Bitcoin, which accounts for 80% of the cryptocurrency market, has been shown to be *ten times more volatile* than major currency exchange rates.[43] Illustrating how damaging this volatility has ultimately been for investors in cryptocurrency, a recent report has found that an astonishing 40% of Bitcoin investors are underwater.[44] Even further underscoring the volatility of cryptocurrency is recent news related to a so-called "stablecoin," i.e. a digital asset whose value is supposed to be pegged to a reference

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42 Blockchain.com, Bitcoin Price History from Nov. 8, 2021 to May 11, 2022 (last accessed May 11, 2022), https://www.blockchain.com/prices/BTC?from=1635868800&to=1652284800&timeSpan=custom&scale=0&style=line.

43 Dirk G. Bauer & Thomas Dimpfl, *The Volatility of Bitcoin and Its Role as a Medium of Exchange and a Store of Value*, 61 Empirical Economics 2663 (Jan. 5, 2021), https://link.springer.com/content/pdf/10.1007/s00181-020-01990-5.pdf; *see also* Better Markets, Fact Sheet: Cryptocurrencies—The Next Big Thing Or The Next Gold Rush (Mar. 9, 2022), https://bettermarkets.org/wp-content/uploads/2022/03/BetterMarkets_FactSheet_Cryptocurrencies_3-9-2022.pdf. This extraordinary volatility is why, despite the significant visibility and interest in cryptocurrencies, it has not been widely adopted and used as a currency, because its "unstable value has also made it an unviable medium of exchange." Eswar Prasad, *The Brutal Truth About Bitcoin*, N.Y. TIMES OPINION (Jun. 14, 2021), https://www.nytimes.com/2021/06/14/opinion/Bitcoin-cryptocurrency-flaws.html.

44 MacKenzie Sigalos, *40% of Bitcoin Investors Are Now Underwater, New Data Shows*, CNBC (May 9, 2022), https://www.cnbc.com/2022/05/09/40percent-of-bitcoin-investors-underwater-glassnode-data.html.

asset, that "are supposed to provide calm in the chaos of crypto."[45] In fact, one such coin recently "broke the buck," trading as low as **23 cents** despite supposedly being pegged to the dollar.[46]

Extraordinary Market Concentration

Cryptocurrencies, especially Bitcoin, are also characterized by a high degree of market concentration, in which a significant amount of cryptocurrency is held by a relatively small number of "whales." A study released in October 2021 found that just the top 0.01% of Bitcoin holders control an astonishing 27% of Bitcoins in circulation.[47] This extraordinary concentration of wealth is even more pronounced than the current levels of extreme wealth inequality present in the United States, where "the top 1% of households hold about a third of all wealth."[48]

Significant Retail Participation

As noted above, Bitcoin and other cryptocurrencies rapidly went from obscure product to financial celebrity and the center of mass attention. Meteoric price rises, splashy news headlines about the potentials of cryptocurrency and blockchain technology, ardent proselytizing from enthusiasts on social media, and extravagant marketing campaigns featuring high-profile celebrities, including FTX's Super Bowl commercial featuring *Curb Your Enthusiasm* star and *Seinfeld* co-creator Larry David, have drawn a significant amount of mainstream attention to the cryptocurrency market, making Bitcoin a household name. As a result, in recent years, "retail investors piled into cryptocurrencies."[49] As Chairman Behnam has explained, the cash market for digital assets is currently characterized by a high number of retail investors."[50]

Rampant Speculation

Another key characteristic of the cryptocurrency market is that, unlike the typical markets the CFTC oversees, it is almost entirely speculative. Since cryptocurrencies have no intrinsic

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45 Stacy-Marie Ishmael, *Crypto's Audacious Algorithmic Stablecoin Experiment Crumbles*, BLOOMBERG (May 10, 2022), https://www.bloomberg.com/news/articles/2022-05-10/crypto-s-audacious-algorithmic-stablecoin-experiment-crumbles?sref=mtQ4hc2k.

46 Caitlin Ostroff & Elaine Yu, *Cryptocurrency TerraUSD Plunges as Investors Bail*, Wall St. J. (May 11, 2022), https://www.wsj.com/articles/cryptocurrency-terrausd-plunges-as-investors-bail-11652256429?mod=heardonthestreet_trending_now_article_pos2.

47 Igor Mankarov & Antoinette Schoar, *Blockchain Analysis of the Bitcoin Market*, NBER Working Paper No. 29396, https://www.nber.org/papers/w29396; *see also* Paul Vigna, *Bitcoin's 'One Percent' Control Lion's Share of the Cryptocurrency's Wealth*, WALL ST. J. (Dec. 20, 2021), https://www.wsj.com/articles/Bitcoins-one-percent-controls-lions-share-of-the-cryptocurrencys-wealth-11639996204?redirect=amp.

48 Paul Vigna, *Bitcoin's 'One Percent' Control Lion's Share of the Cryptocurrency's Wealth*, WALL ST. J. (Dec. 20, 2021), https://www.wsj.com/articles/Bitcoins-one-percent-controls-lions-share-of-the-cryptocurrencys-wealth-11639996204?redirect=amp.

49 John McCrank, *Analysis: Retail Investors Learn to Love the Crypto Rollercoaster*, REUTERS (May 21, 2021), https://www.reuters.com/technology/retail-investors-learn-love-crypto-rollercoaster-2021-05-21/.

50 Testimony of Chairman Rostin Behnam Regarding "Examining Digital Assets: Risks, Regulation, and Innovation" (Feb. 9, 2022).

value, their "market value is based entirely on speculation, which is essentially educated guesswork."[51] Given that Bitcoin and other cryptocurrencies do not currently function as a "currency" in any meaningful way, this means that it is "mainly used as a speculative asset which people buy and sell for the sake of rapid financial profit."[52] This speculative nature of cryptocurrency is further fueled by common and popular slogans among cryptocurrency enthusiasts such as "To the moon!" and FOMO (fear of missing out), which can further increase social pressure to trade cryptocurrency. Adding to the dominance of speculation in cryptocurrency markets is the fact that cryptocurrencies do not currently have any real commercial use, meaning there is little need for hedging in the cryptocurrency market.[53]

Fraud and Manipulation

Yet another troubling characteristic of the cryptocurrency market is the prevalence of fraud and manipulation. As one commentator has explained, "market manipulation schemes remain a common occurrence in the cryptocurrency space."[54] ***In a 2021 white paper, Deloitte estimated that up to 90% of the trading volume in cryptocurrency could be subject to manipulation.***[55] The schemes used to manipulate cryptocurrency markets run the gamut, from pump-and-dump schemes, spoofing, and

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51 Nicole Lapin, *Explaining Crypto's Volatility*, Forbes (Dec. 23, 2021), https://www.forbes.com/sites/nicolelapin/2021/12/23/explaining-cryptos-volatility/?sh=5b3059da7b54; *see also* Ian A. Holcomb, *Bitcoin's Standing Within the Global Regulatory and Economic Marketplace,* 23 Currents: J. Int'l Econ. L. 56, 59 (2016) (explaining that Bitcoin's "valuation is largely based on consumer confidence in the currency and as speculation regarding how it will perform in the future."); Tracy Alloway and Joe Weisenthal, *Sam Bankman-Fried Described Yield Farming and Left Matt Levine Stunned,* Bloomberg Markets Odd Lots, (Apr. 25, 2022), https://www.bloomberg.com/news/articles/2022-04-25/sam-bankman-fried-described-yield-farming-and-left-matt-levine-stunned?sref=mQvUqJZj; Steve Goldstein, *ECB Official Says Crypto Powered by Greed as Leading Industry Player's Comments Liken to Ponzi description*, MarketWatch (Apr. 25, 2022), https://www.marketwatch.com/story/ecb-official-says-crypto-powered-by-greed-as-leading-industry-players-comments-likened-to-ponzi-description-11650901397.

52 Maxime Lambrecht & Louis Larue, *After the (Virtual) Goldrush: Is Bitcoin More Than a Speculative Bubble*, Internet Policy Review (Oct. 30, 2018), https://www.econstor.eu/bitstream/10419/214063/1/IntPolRev-2018-4-1353.pdf.

53 Although some argue that there may be some, including Bitcoin miners, Bitcoin merchant processors, and companies that accept Bitcoin, who might have a genuine need to hedge their Bitcoin exposures, there is little evidence that hedging plays any role in any aspect of the cryptocurrency markets. Lee Reiners, *Bitcoin Futures: From Self-Certification to Systemic Risk*, 23 N.C. BANKING INST. 61 (2019).

54 Parth Kalaria, *Rated P for Public: Learning from Dodd-Frank and Credit Rating Agencies to Propose A Public Cryptocurrency Rating Provider in the United States*, 2020 COLUM. BUS. L. REV. 656, 672 (2020); *see also* Morgan Peck, *Pumpers, Dumpers and Shills: The Skycoin Saga*, NEW YORKER (Aug. 18, 2021) (explaining that "[m]arket manipulation is rampant" in the cryptocurrency markets), https://www.newyorker.com/tech/annals-of-technology/pumpers-dumpers-and-shills-the-skycoin-saga.

55 Deloitte, Market Manipulation in Digital Assets (Mar. 2021), https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Financial-Services/gx-design-market-manipulation-in-digital-assets-whitepaper-v2-1.pdf.

layering to wash sales.[56] Fraud and outright theft is also prevalent in the cryptocurrency markets, with Chairman Gary Gensler of the Securities and Exchange Commission referring to it as the "Wild West."[57]

Crime and fraud have always been a characteristic of the cryptocurrency market: largely due to its promised anonymity, Bitcoin rapidly evolved into "the preferred currency for criminal activities."[58] Now, with the significant attention cryptocurrencies have attracted, along with the "lack of regulation and the anonymity of digital money have created a ripe environment for fraudsters."[59] ***In 2021 alone, cryptocurrency frauds and scams resulted in $14 billion in losses***.[60] While the CFTC has the limited authority to police fraud and manipulation in the cryptocurrency spot markets, its lack of broader oversight authority over the spot market makes it difficult for the agency to effectively monitor for fraud and manipulation.[61]

An important connecting thread to note about these various concerns raised by cryptocurrencies is that they are not independent characteristics; rather, they reinforce and feed off of each other. For example, the volatility in the cryptocurrency markets can lead to sudden price spikes, which may draw the attention of retail traders, urged on by FOMO and hoping to make a rapid profit by riding the skyrocketing price "to the moon." The resulting speculative frenzy may contribute to even more to price volatility. Similarly, that so much Bitcoin is concentrated in so few hands makes market manipulation more likely.[62] This is because, among other factors, when so much of an asset is concentrated in so few hands, it is easy for those few participants to make price moving transactions in the asset that can benefit their positions. This is compounded by the

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56 Deloitte, Market Manipulation in Digital Assets (Mar. 2021), https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Financial-Services/gx-design-market-manipulation-in-digital-assets-whitepaper-v2-1.pdf.

57 Gary Gensler, Remarks Before the Aspen Security Forum, (Aug. 3, 2021). https://www.sec.gov/news/public-statement/gensler-aspen-security-forum-2021-08-03.

58 Eswar Prasad, *The Brutal Truth About Bitcoin*, N.Y. TIMES (Jun. 14, 2021), https://www.nytimes.com/2021/06/14/opinion/bitcoin-cryptocurrency-flaws.html.

59 Alexander Osipovich, *Crypto Frauds Target Investors Hoping to Cash In on Bitcoin Boom*, WALL ST. J. (Jun. 7, 2021), https://www.wsj.com/articles/crypto-frauds-target-investors-hoping-to-cash-in-on-Bitcoin-boom-11623058380.

60 MacKenzie Sigalos, *Crypto Scammers Took a Record $14 Billion in 2021*, CNBC (Jan. 6, 2022), https://www.cnbc.com/2022/01/06/crypto-scammers-took-a-record-14-billion-in-2021-chainalysis.html.

61 Hannah Lang & Pete Schroeder, *Head of U.S. Derivatives Regulator Urges Key Crypto Role for Agency*, REUTERS (Feb. 9, 2022), https://www.reuters.com/technology/head-us-derivatives-regulator-urges-key-crypto-role-agency-2022-02-09/.

62 Jonathan Berr, *Cryptocurrencies: Market Manipulation a Rising Fear*, CBS NEWS (Jan,. 18, 2018) (""The ownership of Bitcoin is very highly concentrated. ... When you have such a high concentration, it's very easy for insiders to manipulate the currency for their own benefit."), https://www.cbsnews.com/news/Bitcoin-cryptocurrencies-fear-of-market-manipulation/. These are not the only concerns that cryptocurrency raises. Among other things, cryptocurrency mining is harmful to the environment: "By some estimates, the Bitcoin network consumes as much energy as entire countries like Argentina and Norway, not to mention the mountains of electronic waste from specialized machines used for such mining operations that burn out rapidly." Eswar Prasad, *The Brutal Truth About Bitcoin*, N.Y. Times (Jun. 14, 2021), https://www.nytimes.com/2021/06/14/opinion/bitcoin-cryptocurrency-flaws.html.

fact that, when there are only a relatively few participants with significant holdings, it becomes that much easier for those few participants to collude to artificially move the price.[63]

Bitcoin Futures Contracts

The concerns raised by the rapidly expanding cryptocurrency market are of real and urgent concern to participants in those markets and to policymakers (including the CFTC) that seek to protect participants from abuse and police the integrity and stability of the markets. Cryptocurrencies clearly pose a serious threat to investors and market integrity through the fraudulent and manipulative schemes discussed above. With respect to financial stability, cryptocurrencies may not pose an imminent threat.[64] However, as cryptocurrencies grow and become more interconnected with the broader financial system, the various characteristics that make cryptocurrencies such a troubling market may begin to propagate through the system, imperiling financial stability, much as the proliferation of credit default swaps through the financial system led to the devastating 2008 financial crisis.[65]

The CFTC has actually been facilitating these interconnections, through and including the unopposed self-certification of the Bitcoin futures contracts which contributed "to a rapid integration of virtual currency with mainstream financial markets and institutions."[66] This began in 2014, when the CFTC approved a Bitcoin swap listed by TeraExchange.[67] Most notably, however, was the CFTC's decision not to block the self-certification of Bitcoin futures contracts by CME and CBOE in 2017. Under the Commodity Futures Modernization Act of 2000, exchanges do not have to seek the CFTC's approval to list a new futures contract but can self-certify that the contract meets the relevant statutory and regulatory requirements, including the 23 core principles that the CFTC has established for new contracts.[68]

Unless, the CFTC finds that the new contract would not meet those requirements, the applicant may list the contract one full business day later.[69] In 2017, the CFTC determined that, despite the novelty of the Bitcoin futures contracts and the variety of concerns, issues, and risks related to cryptocurrency, there were insufficient grounds to stay the listing of the new contract.[70]

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63 Jonathan Berr, *Cryptocurrencies: Market Manipulation a Rising Fear*, CBS NEWS (Jan,. 18, 2018) ("The ownership of Bitcoin is very highly concentrated. ... When you have such a high concentration, it's very easy for insiders to manipulate the currency for their own benefit."), https://www.cbsnews.com/news/Bitcoin-cryptocurrencies-fear-of-market-manipulation/.

64 Lee Reiners, *Bitcoin Futures: From Self-Certification to Systemic Risk*, 23 N.C. BANKING INST. 61 (2019).

65 Lee Reiners, *Bitcoin Futures: From Self-Certification to Systemic Risk*, 23 N.C. BANKING INST. 61 (2019); *see also* BETTER MARKETS, THE COST OF THE CRISIS: $20 TRILLION AND COUNTING (2015), https://bettermarkets.com/sites/default/files/Better%20Markets%20-%20Cost%20of%20the%20Crisis.pdf.

66 Lee Reiners, *Bitcoin Futures: From Self-Certification to Systemic Risk*, 23 N.C. BANKING INST. 61 (2019).

67 Michael J. Casey, *TeraExchange Unveils First U.S.-Regulated Bitcoin Swaps Exchange*, WALL ST. J. (Sept. 12, 2014), https://www.wsj.com/articles/teraexchange-launches-Bitcoin-derivatives-exchange-1410543989.

68 Lee Reiners, *Bitcoin Futures: From Self-Certification to Systemic Risk*, 23 N.C. BANKING INST. 61 (2019).

69 Lee Reiners, *Bitcoin Futures: From Self-Certification to Systemic Risk*, 23 N.C. BANKING INST. 61 (2019).

70 *See* CFTC, CFTC Backgrounder on Oversight of and Approach to Virtual Currency Futures Markets (Jan. 4, 2018),

This decision was controversial,[71] particularly with regard to Core Principle 3, which provides that a contract cannot be listed unless it is "not readily susceptible to manipulation."[72]

However, as noted above, there is a mountain of objective evidence that manipulation has and continues to run rampant in Bitcoin and other cryptocurrency markets. The CFTC took the tortured, if not Orwellian position that although the underlying market could be readily manipulated, the Bitcoin futures contracts themselves were "not readily susceptible to manipulation," making them appropriate for listing.

This assertion was, and remains, dubious at best.[73] Indeed, similar concerns about market manipulation have led the SEC to reject cryptocurrency exchange-traded products (although some differences in the statutory standards for approval arguably contributed to the different treatments).[74] Moreover, there were several red flags that the self-certified Bitcoin futures contracts were not as impervious to manipulation as the CFTC believed—for example, CME included Bitfinex as a possible exchange to contribute to its reference rate despite well-founded allegations of significant manipulation and fraud committed by Bitfinex, which were known at the time of the self-certification (not to mention a CFTC enforcement action against Bitfinex for letting customers borrow funds from other users to trade Bitcoin using leverage). While Bitfinex did not contribute to CME's reference rate, this was only because of unrelated transfer restrictions imposed by Taiwan, with an implication that Bitfinex would contribute to the reference rate once those issues were resolved.[75]

Ultimately, the self-certification took place under CFTC Chair J. Christopher Giancarlo, whose well-documented enthusiasm for cryptocurrencies appears to have led to insufficient skepticism, analysis, and review of the Bitcoin futures contracts.[76] In light of these significant concerns that pre-dated the self-certification of Bitcoin futures contracts, and the ongoing issues in the cryptocurrency market, the CFTC should revisit whether allowing the self-certification of Bitcoin futures to move forward was appropriate. The CFTC should thoroughly re-examine that decision, and if, as we suspect, it is found to be unwarranted under the applicable legal standard

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https://www.cftc.gov/sites/default/files/idc/groups/public/@newsroom/documents/file/backgrounder_virtualcurrency01.pdf.

71 *See, e.g.*, FIA Open Letter to CFTC Chairman Regarding the Listing of Crytocurrency Derivatives (Dec. 7, 2017), https://www.fia.org/resources/open-letter-cftc-chairman-giancarlo-regarding-listing-cryptocurrency-derivatives.

72 17 CFR § 38.200 .

73 *See* Lee Reiners, *Bitcoin Futures: From Self-Certification to Systemic Risk*, 23 N.C. BANKING INST. 61 (2019) ("However, if the entire Bitcoin spot market can be manipulated, can a futures contract based on Bitcoin truly be resistant to manipulation?").

74 *Id.*

75 *Id.*

76 *Cf.* Steven Erlich, C*rypto Dad: 'Money Is Too Important To Be Left To Central Bankers'*, Forbes (Nov. 1, 2021) (J. Christopher Giancarlo explaining in interview that he got the nickname "Crypto Dad" after resisting "pressure" from a wide variety of stakeholders to block the certification of Bitcoin futures), https://www.forbes.com/sites/stevenehrlich/2021/11/01/crypto-dad-money-is-too-important-to-be-left-to-central-bankers/?sh=142e67f63518.

and the facts surrounding the Bitcoin spot market, then the agency should initiate proceedings to reverse it.

COMMENTS

FTX's application raises significant questions and concerns, few of which have been adequately answered or addressed at this stage. These concerns arise not only from issues in the cryptocurrency market detailed above, but also because the proposed FTX platform would introduce a fundamental change in the operations of the futures market, particularly if FTX's non-intermediated model was adopted by other DCOs and for other asset classes—the inevitability of which is the only responsible assumption to make in evaluating this Application.

We recognize that the potential fundamental change represented by FTX's application (notably providing long overdue and highly desirable competition to an overly concentrated duopoly) also represents a potential opportunity to improve the functioning of the futures market. However, whether and to what extent the Application would actually lead to that outcome, without undermining financial stability as well as customer and market participant protections, can only be evaluated after much further objective, data-driven analysis and public input.

I. THE CFTC'S ROLE IN ASSESSING FTX'S APPLICATION IS NOT TO PICK WINNERS FROM COMPETING BUSINESS MODELS

Ideally, market problems are solved by market solutions, driven by the needs and desires of market participants, which will of course vary. That means that a variety of different and competing market solutions may vie for regulatory approval. The ideal role of a financial regulator such as the CFTC is not to pick and choose among competing market solutions or business models, but to establish and enforce robust rules that will protect market participants and the broader public from harm that might be caused by those market activities, regardless of what sort of business model is used to conduct those activities. That is what the CEA requires[77] and is what must guide the CFTC as it considers FTX's application.

Generally speaking, we agree with FTX that the Commodity Exchange Act "does not mandate a one-size-fits-all approach" to DCO operations.[78] Moreover, Better Markets has long recognized that the significant concentration in these markets is undesirable, with just a few large market participants (predominantly CME and ICE) controlling the bulk of access to futures trading and clearing.[79] The results of this concentration can be deleterious, from anti-competitive behavior

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77 *See 7* U.S.C. § 5(b).

78 Application at 2.

79 *See.*, Letter by Better Markets and Open Markets re: Competitive Implications of Potential Merger or Acquisition between the CME Group and Cboe Global Markets, and Request for Study on Existing Concentration Problems at Derivatives Exchanges (Nov. 8, 2021), https://bettermarkets.org/wp-content/uploads/2021/11/Better-Markets-Open-Markets-CME-Cboe-Joint-Letter-Final.pdf; Better Markets Comment Letter on Requirements for Derivatives Clearing Organizations, Designated Contract Markets, and

that encourages rent-seeking and undermines efficiency, to conflicts of interest and trading abuses, to exacerbating the too-big-to-fail problem due to the significant amounts of risk in just a few large institutions.[80] This benefits the members of the oligopoly at the expense of other market participants, and, potentially, financial stability. Concerns about the negative impacts of market concentration are why one of the "core purposes" of the CEA, is to

> "promote **responsible innovation and fair competition** among boards of trade, other markets, and market participants."[81]

In accordance with this principle, Better Markets supports innovation that might confer the benefits of reducing concentration in the futures market and breaking up the oligopoly that results in inefficiencies and risks to the financial system. Such innovation benefits the public interest as long as that innovation is accompanied by thoughtful and effective protections that concretely and specifically address the various risks inherent in new, untested approaches.[82]

This principle is critical for the CFTC to keep in mind because the incumbent firms that benefit from the current oligopoly will almost certainly vociferously oppose FTX's Application.[83] Their opposition will almost certainly be couched in terms relating to the public interest, but, as Bloomberg has reported, "many in traditional finance fear the model could be applied to other assets, threatening Wall Street's stranglehold over lucrative aspects of market plumbing."[84] The CFTC, of course, knows that its decision on the Application cannot be influenced by a desire to protect Wall Street from a threat to the outsized profits it is able to extract from its "stranglehold" over the futures markets. Indeed, we are confident that the CFTC would be happy to facilitate the

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Swap Execution Facilities Regarding Mitigation of Conflicts of Interest 2-3 (Aug. 26, 2011), https://bettermarkets.org/wp-content/uploads/2021/07/CFTC-Supplemental-CL-Conflicts-of-Interest-SEFs-DCOs-8-26-11.pdf.

80 Letter by Better Markets and Open Markets re: Competitive Implications of Potential Merger or Acquisition between the CME Group and Cboe Global Markets, and Request for Study on Existing Concentration Problems at Derivatives Exchanges (Nov. 8, 2021), https://bettermarkets.org/wp-content/uploads/2021/11/Better-Markets-Open-Markets-CME-Cboe-Joint-Letter-Final.pdf; Better Markets Comment Letter on Requirements for Derivatives Clearing Organizations, Designated Contract Markets, and Swap Execution Facilities Regarding Mitigation of Conflicts of Interest 2-3 (Aug. 26, 2011), https://bettermarkets.org/wp-content/uploads/2021/07/CFTC-Supplemental-CL-Conflicts-of-Interest-SEFs-DCOs-8-26-11.pdf.

81 7 U.S.C. § 5(b) (emphasis added); *see also* Testimony of Chairman Rostin Behnam Regarding the "State of the CFTC" (Mar. 31, 2022), https://www.cftc.gov/PressRoom/SpeechesTestimony/opabehnam22.

82 Jason Grimes, The Dangerous Allure of Unbound Innovation (Mar. 23, 2022), https://bettermarkets.org/newsroom/the-dangerous-allure-of-unbound-innovation/.

83 Katherine Doherty, Allyson Verspille & Yueqi Yang, *Crypto Billionaire Rankles Wall Street Titans With Derivatives Plan*, BLOOMBERG (Apr. 21, 2022), https://www.bloomberg.com/news/articles/2022-04-21/crypto-billionaire-rankles-wall-street-with-futures-trading-plan?sref=mtQ4hc2k.

84 Katherine Doherty, Allyson Verspille & Yueqi Yang, *Crypto Billionaire Rankles Wall Street Titans With Derivatives Plan*, BLOOMBERG (Apr. 21, 2022), https://www.bloomberg.com/news/articles/2022-04-21/crypto-billionaire-rankles-wall-street-with-futures-trading-plan?sref=mtQ4hc2k.

breaking of that "stranglehold" by supporting "responsible innovation and fair competition," but it knows it can ***only do that if it can also***:

> "deter and prevent price manipulation or any **other disruptions to market integrity**; … ensure the financial integrity of all transactions … and the avoidance of systemic risk; … protect all market participants from ***fraudulent or other abusive sales practices*** …."[85]

That is why the CFTC must carefully and fully evaluate the real, serious concerns for the public interest raised by FTX's Application. However, as it assesses comments on FTX's Application, it must view skeptically the inherently self-serving claims of those whose opposition to the Application is rooted in concerns about preventing competition and protecting private profits rather than the public interest. That same skepticism must be applied to FTX's self-serving claims in support of their application.[86] There is nothing inherently wrong with making self-serving claims but cloaking those claims as coterminous with the public interest requires the CFTC to be particularly vigilant.

II. FTX'S APPLICATION COULD ONLY BE APPROVED *IF* A FRAMEWORK COULD BE ESTABLISHED THAT ADDRESSES THE MYRIAD CONCERNS IT RAISES.

Although the CFTC should not necessarily reject FTX's Application to protect incumbent firms' profits from their "stranglehold" on futures trading and clearing, there are a number of real and significant concerns raised by its Application. FTX's Application cannot be approved unless and until those concerns are robustly evaluated and the CFTC is confident that there is an effective regulatory framework in place to ensure that FTX's proposed model satisfies the requirements of the CEA[87] and does not risk of harm to market participants, the financial system, and the broader economy.

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85 7 U.S.C. § 5(b) (emphasis added).

86 One example of an FTX claim that the CFTC must view skeptically is that it will adequately perform any of the necessary functions that FCMs ordinarily perform, in part because it is subject to analogous requirements in its capacity as a DCO or DCM. *See* Application at 6-9. It may be that FTX is subject to broadly analogous requirements, but because it will be operating in a different capacity than FCMs but purporting to provide the same level of protection, the CFTC must ensure that FTX is capable of meeting those requirements, particularly those that relate to customer protections, in its new role. Another related concern is whether FTX will be able to perform the know-your-customer and anti-money laundering requirements applicable to futures commission merchants. *See* 31 C.F.R. Part 1026. This is especially acute here, in light of the anonymous nature of Bitcoin and other cryptocurrencies, which, as discussed above, is used to facilitate fraud. Eswar Prasad, *The Brutal Truth About Bitcoin*, N.Y. TIMES OPINION (Jun. 14, 2021) ("Bitcoin enabled transactions using only digital identities, granting users some degree of anonymity. This made Bitcoin the preferred currency for illicit activities, including recent ransomware attacks. It powered the shadowy darknet of illegal online commerce much like PayPal helped the rise of eBay by making payments easier."), https://www.nytimes.com/2021/06/14/opinion/Bitcoin-cryptocurrency-flaws.html

87 7 U.S.C. § 5(b).

At the outset, it is important to note that FTX's proposal would represent a fundamental change in how futures markets operate. Although retail investors are allowed to participate in futures trading, futures markets arose as, and remain, almost entirely institutional markets.[88] This means that, by and large, futures market participants have the sophistication, self-interest, and ability to protect themselves, as well as the financial resources to take on the significant risks that futures trading entails. Moreover, the futures markets were established not to enable speculation, but to help commercial entities manage the price risk associated with their productive commercial activities, a function that ultimately benefits everyday Americans by helping maintain consistent prices at the pump, at grocery stores, and elsewhere.[89] This is why the CFTC has established speculative position limits—while speculators are tolerated in the futures market, and benefit the futures market to the extent they ensure sufficient liquidity for hedgers, the futures market is not for speculators, and excessive speculation by profiteers hurts producers, consumers, and the broader economy – which is why it is expressly prohibited in the CEA.[90] The rules, practices, and operations of the futures market developed around these core characteristics—institutional markets primarily serving the price discovery and hedging needs of those producers and purchasers engaged in productive commercial enterprise.

The Application represents a fundamental change away from these long-term pillars regarding the nature and purpose of the futures markets and the participants they exist to serve. Specifically, if approved, FTX's proposal would facilitate significant retail participation in what has historically been an institutional market. Moreover, FTX proposes to clear an asset class, cryptocurrency, that serves no real commercial purpose and, accordingly, for which there is no real hedging need. In other words, participation in the cryptocurrency futures market, like participation in the cryptocurrency spot market, will be almost entirely speculative.

Whatever the merits of the Application, the fundamental departure it represents from the foundation that underlay much of the regulatory framework applicable to futures trading demands that the CFTC take an especially cautious and deliberative approach to assessing FTX's Application, including considering establishing a framework that will appropriately protect market participants and the public from unwarranted risks in this fundamentally different marketplace. Requesting public comment on the Application, and convening a roundtable for a public discussion of it, are indicative that the CFTC is taking an appropriately deliberative approach, which we

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88 CFTC, Basics of Futures Trading (last accessed May 5, 2022), https://www.cftc.gov/LearnAndProtect/AdvisoriesAndArticles/FuturesMarketBasics/index.htm; *cf. also* Lee Reiners, *Bitcoin Futures: From Self-Certification to Systemic Risk*, 23 N.C. BANKING INST. 61 (2019) (explaining that early futures exchanges were "owned by sophisticated business parties with both the motive and the means to ensure that members in the club would make good on their bets).

89 *See* Better Markets Letter to CFTC on Leadership Regarding Position Limits on Physical Commodities (Nov. 10, 2021), https://bettermarkets.org/wp-content/uploads/2021/11/Ltr-CFTC-Re-Position-Limits-11-10-2021.pdf; *see also* Lee Reiners, *Bitcoin Futures: From Self-Certification to Systemic Risk*, 23 N.C. BANKING INST. 61.

90 *See* 7 U.S.C.§ 6a; Better Markets Letter to CFTC on Leadership Regarding Position Limits on Physical Commodities (Nov. 10, 2021), https://bettermarkets.org/wp-content/uploads/2021/11/Ltr-CFTC-Re-Position-Limits-11-10-2021.pdf

applaud, and we urge the CFTC to continue with that approach. As discussed below, we also believe that the CFTC must engage in a formal rulemaking regarding the necessary framework before it can decide on the Application.

We highlight below some of the major concerns FTX must address before consideration is given to approving its Application.

A. The CFTC Must Ensure FTX's Model Sufficiently Protects Retail Investors

A major stated purpose of FTX's Application to provide direct access to its clearing services, including to retail participants, is to "democratize futures trading access."[91] However, its Application primarily focuses on assuring the CFTC that FTX can offer direct access that will "democratize" futures trading without unduly increasing ***the risk to itself*** in its capacity as a DCO; it contains little information on and even less consideration of protecting its customers, especially retail customers, from the undue risk of harm that arises from speculative trading in futures contracts. Before its Application can be approved, FTX must demonstrate significantly more commitment to meaningfully protecting the retail customers it is enticing and facilitating into the risky and dangerous world of futures trading, particularly in cryptocurrency futures.

One concern FTX's Application raises is that futures trading, like speculative trading in any derivative, particularly using margin, is inherently risky. This is perhaps most starkly illustrated by the experience of retail traders speculating in options contracts in recent years. Sleek, supposedly user-friendly apps like Robinhood (which also promises to "democratize access" to trading) have made it significantly easier for retail traders to trade not only stocks but also riskier products such as options.[92]

As it turns out, the increased access touted by Robinhood and others as "democratizing" finance has in fact resulted in significant harms—a recent study found that retail investors trading in risky options lost an astonishing ***$1.14 billion*** trading in options from November 2019 to June 2021, a number that rises to ***more than $5 billion in losses*** when the $4.13 billion in trading costs are included. These losses have arisen almost certainly because retail investors can have (understandable) difficulty grasping the complexities of these types of instruments.[93] There is little

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91 Application at 2.

92 Dennis M. Kelleher, Jason Grimes & Andres Chovil, *Democratizing Equity Markets With and Without Exploitation: Hedge Funds, Gamification, High Frequency Trading, and More*, 44 W. New England L. Rev. (forthcoming July 2022), attached as an Exhibit to this letter.

93 Svetlana Bryzgalova et al., Retail Trading in Options and the Rise of the Big Three Wholesalers (Apr,. 12, 2022), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4065019; Vildana Hajric, *Mom and Pop Investors Took a Bath Trading Options During Pandemic*, BLOOMBERG (Apr. 27, 2022), https://www.bloomberg.com/news/articles/2022-04-27/mom-and-pop-took-a-billion-dollar-bath-trading-pandemic-options?sref=mtQ4hc2k. *See also* Yun Li, *Options Trading Activity Hits Record Powered by Retail Investors, But Most are Playing a Losing Game*, CNBC (Dec. 22, 2021), ("Everybody in the business knows that if you're only buying out-the-money calls, then you're likely going to lose money over time."), https://www.cnbc.com/2021/12/22/options-trading-activity-hits-record-powered-by-retail-investors.html.

reason to believe that retail traders lured into trading futures, another type of risky derivative contract, by FTX's direct access model would fare any better than retail options traders did during the pandemic. Indeed, they may suffer even worse losses in the futures markets. All of this at least suggests that democratizing access for retail traders is actually not something the CFTC should be interested in authorizing unless they are assured that all the requirements of the CEA are fully and effectively satisfied.[94]

These concerns are especially acute here in light of the asset class FTX is proposing to clear using its model. As explained above, the cryptocurrency market has a number of characteristics that would likely contribute to significant losses for retail traders. Because of the high profile of Bitcoin and other cryptocurrencies, fueled in significant part by flashy celebrity marketing campaigns by FTX and others, it is possible, if not likely, that many retail traders, including smaller traders without a lot of financial resources, may flock to FTX's products, just as retail traders flocked to options trading during the pandemic facilitated by Robinhood and similar platforms that made trading options easy.

Traders may be further attracted to FTX's products because, like options, traders can take on a larger position by putting down relatively little money. The volatility of the cryptocurrency market will also contribute to losses by retail participants, especially because many retail participants will be drawn to the market during periods of rapidly rising prices, hoping to ride it "to the moon," only to find they have entered at the top of a wave that is about to come crashing down rapidly. This is exactly what happened to many retail traders during the GameStop frenzy.[95] In fact, the damage retail investors suffered from that episode continues, as the so-called "meme stocks" that made up the frenzy are now trading at an all-time low, which may foreshadow the losses retail traders will suffer if FTX's Application is approved:[96]

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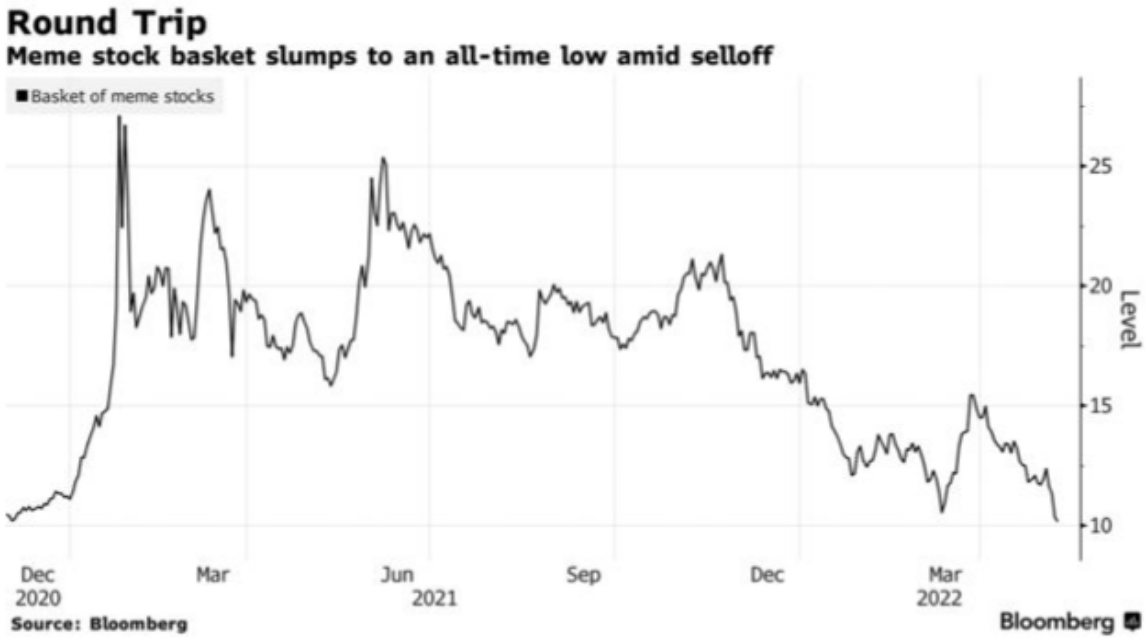
[94] We recognize that, unlike swaps, retail participants are allowed to trade futures. Nevertheless, that does not mean the CFTC should facilitate it regardless of other statutory considerations. Indeed, if it approves FTX's Application, the claimed benefit of increased access for retail investors must be accompanied with significant protections ensuring that the access isn't merely a means for them to lose large amounts of money gambling on speculative products pitched to them in predatory ways, which almost certainly will have a deleterious impact on the markets themselves as well including but not limited to increasing excess speculation.

[95] Drew Harwell, *As GameStop Stock Crumbles, Newbie Traders Reckon With Heavy Losses*, WASH. POST (Feb. 2, 2021), https://www.washingtonpost.com/technology/2021/02/02/gamestop-stock-plunge-losers/; *see also* Dennis M. Kelleher, Jason Grimes & Andres Chovil, *Democratizing Equity Markets With and Without Exploitation: Hedge Funds, Gamification, High Frequency Trading, and More*, 44 W. New England L. Rev. (forthcoming July 2022), attached as an Exhibit to this letter.

[96] Bailey Lipschultz, *Meme Stock Euphoria Goes Bust as Group Drops to All-Time Low*, BLOOMBERG (May 10, 2022), https://www.bloomberg.com/news/articles/2022-05-10/meme-stock-euphoria-goes-bust-as-group-slumps-to-all-time-low?sref=mtQ4hc2k.



This problem will almost certainly be exacerbated here because, since cryptocurrency has no real intrinsic value, it is essentially impossible to make even an educated guess about whether any particular price for cryptocurrency makes sense.[97] This is why the UK's Financial Conduct Authority (FCA) explicitly **banned** cryptocurrency derivatives from being sold to retail investors in 2020: overwhelming evidence found that "retail consumers will suffer harm from potentially sudden and unexpected losses if they buy these products."[98] The evidence amassed by the FCA in making this determination should be reviewed by the CFTC in connection with its evaluation of the Application.

Beyond the inherently risky nature of futures trading, especially in Bitcoin and other cryptocurrencies, there are aspects of FTX's proposed model that raise additional investor protection concerns, particularly for retail participants. FTX proposes to account for the risks inherent in its direct access model by calculating margin requirements on a near-real time basis, and automatically liquidating portfolios, 10% at a time, when customers fall below the margin requirement. This will occur on a 24/7/365 basis with margin calculations being made about every

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97 Emily Flitter, *It's Hard to Tell When the Crypto Bubble Will Burst, or If There Is One*, N.Y. TIMES (Jan. 27, 2022) ("So how does a new investor make sense of crypto and its constantly changing landscape? The short answer: It's impossible. There are so few reliable measures of value that it's hard to tell whether the excitement around a particular cryptocurrency is justified — or a bubble about to burst."), https://www.nytimes.com/2022/01/27/business/crypto-price-bubble.html.

98 UK FCA, Prohibiting the Sale to Retail Clients of Investment Products That Reference Cryptoassets, https://www.fca.org.uk/publication/policy/ps20-10.pdf,

second.[99] Because of the volatility of the cryptocurrency markets, it is likely that auto-liquidation of customer positions will occur on a fairly frequent basis, with apparently little to no opportunity for customers to deposit additional margin to avoid this auto-liquidation and save positions they may want to maintain.[100]

To be fair, auto-liquidation may not always harm investors, since in a rapidly declining market auto-liquidation could conceivably save traders from suffering cascading losses.[101] However, it is far from clear that FTX's model will benefit customers by stemming losses. For example, flash crashes are not uncommon in the cryptocurrency markets.[102] One such event was a 2017 incident on Coinbase's institutional exchange, in which a single large sell order triggered stop loss orders and margin calls, resulting in ***the price of Ethereum plummeting from over $300 to ten cents in 45 milliseconds*:**[103]

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99 Application at 8.

100 Customers could presumably overmargin to attempt to prevent this. However, the lack of any way to reliably value cryptocurrencies means that the amount needed to overmargin to protect a position is little more than a shot in the dark, and customers may find that by overmargining they have only put more money on the platform to lose.

101 In addition, FTX proposes to make its customers obligations non-recourse, meaning a customer can only lose the money she chooses to put on the platform.

102 Nick Baker, *How Crypto Exchanges Could Stop Flash Crashes if They Wanted To*, BLOOMBERG LAW (Oct. 23, 2021), https://news.bloomberglaw.com/banking-law/crypto-exchanges-can-stop-flash-crashes-if-they-want-will-they.

103 Arjun Kharpal, *Ethereum Briefly Crashed from $319 to 10 Cents in Seconds on One Exchange After 'Multimillion Dollar' Trade*, CNBC (Jun. 22, 2017), https://www.cnbc.com/2017/06/22/ethereum-price-crash-10-cents-gdax-exchange-after-multimillion-dollar-trade.html.

GDAX

Another such incident occurred in October 2021 when ***the price of Bitcoin on one exchange plunged from over $60,000 to $8,200 in just a minute***:

If such a scenario were to occur on FTX with its intra-second margining and auto-liquidation model, a trader could get wiped out of an otherwise profitable position, which could be especially devastating for retail participants.[104] Compounding those losses, FTX proposes to allow customers to use Bitcoin as margin on their Bitcoin futures contracts.. Thus, under such circumstances, if the price of Bitcoin drops requiring more margin or liquidation, a customer may suffer losses two ways.[105]

Ultimately, the CFTC must require that FTX demonstrate significantly more commitment to protecting its customers, especially retail customers, from unexpected and unwarranted losses before it will be appropriate to approve the Application with its novel 24/7/365 intra-second margining and auto-liquidation. This would include, at a minimum: (1) robust, understandable, disclosures around the significant risks arising from futures trading in general, and in

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104 FTX apparently utilizes "slowly moving price bands" to protect against this possibility. FTX, *Avoiding the Next "LME Nickel" Market Incident* (last accessed May 5, 2022), https://www.ftxpolicy.com/risk-management. Any approval of FTX's application should be premised on the CFTC's determination that FTX's price bands, or a similar mechanism, is in place and adequate to prevent flash crashes and similar incidents from unjustifiably wiping out customers. One challenge the CFTC and FTX will have to wrestle with on this issue is that, because cryptocurrencies lack any real intrinsic value, it is difficult to determine when a particular price plunge is simply the result of shifting market sentiment, as often happens in the cryptocurrency market, or is the result of some sort of mistake, as sometimes happens in the cryptocurrency market.

105 FTX should be required to model these scenarios and losses in the analysis discussed in page 2 above.

cryptocurrency futures in particular, and the risks arising from FTX's margining and auto-liquidation model; (2) an appropriate, non-gameable test to ensure each retail customer actually understands futures trading; (3) safeguards to prevent unwarranted customer losses from flash crashes and other market events; (4) a prohibition on using any so-called "gamification" features to encourage futures trading; and (5) marketing materials review and approval process that prevents hype and spin, including from celebrity endorsements, from short-circuiting the deliberative investment process.[106] In addition, because approval of FTX's application will likely result in smaller retail traders competing against larger, more sophisticated institutional investors, the CFTC must ensure that FTX's framework for managing conflicts of interest will prevent the latter from taking advantage of the former.[107]

B. The CFTC Can Only Approve the Application ***If*** a Framework Can Be Established That Fully Protects Against the Risks and Unanticipated and Unintended Consequences of FTX's Model

FTX goes to great lengths to argue that its proposed model, and particularly its intra-second margining and auto-liquidation, will mitigate any risks arising from its direct access clearing model, and in fact further argues that in many ways its methodology is more conservative than that of other DCOs.[108] In many ways, FTX's proposed model does appear, at least superficially, more conservative than prevailing DCO models for ensuring there is sufficient margin to mitigate risks to the DCO and the financial system from this particular DCO. Monitoring each participants' compliance with margin requirements "approximately once per second" and automatically liquidating positions also on a real-time basis, should prevent participant defaults from getting so large as to pose a threat to the DCO. FTX states that it will also have backstop liquidity providers, on which auto-liquidated positions can be laid off if laying them off on the order book is impracticable, and a $250 million guaranty fund.[109] These measures should provide sufficient protection for the DCO.

However, even if these features work as intended to mitigate risk, both to FTX and to the broader financial system, it is not clear that they will be enough to adequately mitigate the variety of novel, fundamentally untested risks posed by the Application, the scope and magnitude of which cannot be fully known or appreciated in advance. For example, clearing an asset class as volatile, speculative, and subject to manipulation as cryptocurrency will certainly increase risk to FTX, if

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106 Britain (as well as other countries) has similarly sought to curb aggressive marketing of cryptocurrency investments. *See* Huw Jones & Tom Wilson, *Britain to Curb Marketing of Crypto Investments* (Jan. 19, 2022), https://www.reuters.com/world/uk/uk-watchdog-restrict-advertising-cryptoassets-2022-01-19/.

107 Similar concerns have been raised with regard to SEC-regulated alternative trading systems, also known as "dark pools" because "they give the few institutional traders who execute the majority of dark-pool trades unfair informational advantages that can be used to front run trades." Jonathan Ponciano, *SEC 'Looking Closely' at 'Dark Pools'—Here's What They Are and Why Reddit Traders Are Rallying* (Aug. 4, 2021), https://www.forbes.com/sites/jonathanponciano/2021/08/04/sec-looking-closely-at-dark-pools-heres-what-they-are-and-why-reddit-traders-are-rallying/?sh=5aa329e62e42.

108 *E.g.* Financial Resource Letter at 3.

109 Financial Resource Letter.

not the broader financial system. Similarly, an influx of retail traders can further increase volatility, particularly in derivatives, as has also been demonstrated by the influx of retail traders trading options.[110]

Another element of risk the CFTC must account for is that, if it approves FTX's Application, it will almost certainly receive requests to allow other DCOs to deploy a similar model for cryptocurrency futures as well as other asset classes, which may be difficult to distinguish and/or deny. With the proliferation of cryptocurrency futures trading by retail investors under the FTX model will come a steadily increasing threat to financial stability.

Moreover, if FTX's model were applied to other asset classes, this would raise even more questions. Theoretically, this might make it easier for those engaged in productive commercial activity to manage price risk and hedge, which could be beneficial to markets and the broader economy. However, more likely, it will attract more retail speculators to trade futures in those contracts and increase what is already excess speculation in many markets. That will increase volatility and hurt not only the integrity of the futures markets but also the underlying spot markets and, ultimately, what Americans pay at the pump and the cash register.

Ultimately, as carefully as FTX may seem to have calibrated its model to account for the perceived risk arising from its proposed model to itself by allowing trading in this one asset class, the Application cannot be approved simply on the basis that it appears to be risk-reducing to it. The experience with swaps, and particularly credit default swaps, is instructive. Many, including former Federal Reserve Chair Alan Greenspan, thought it clear that these novel and innovative derivatives would make the financial system much safer.[111] The opposite turned out to be true—the proliferation of these supposedly risk-reducing derivatives brought about a devastating financial crisis.[112] That is not to say that Greenspan and others who touted the potential of swaps to reduce risk lacked intelligence or foresight. At their inception, few predicted how credit default swaps and other exotic derivatives would interact with subprime mortgages and a real estate bubble, among other things, to cause the worst financial crash since 1929 and worst economy since the 1930s. But it is to say that unleashing unknown, untested models and products into the financial system without a genuinely robust, independent, unbiased, and data-driven evaluation accompanied by sufficient subsequent oversight and enforcement, as happened with swaps, is inviting disaster.

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110 *Beware the Power of Retail Investors*, ECONOMIST (Sept. 12, 2020), https://www.economist.com/finance-and-economics/2020/09/12/beware-the-power-of-retail-investors.

111 Alan Greenspan *Risk Transfer and Financial Stability,* Remarks at the Federal Reserve Bank of Chicago's Forty-first Annual Conference on Bank Structure, Chicago, Illinois (May 5, 2005) ("As is generally acknowledged, the development of credit derivatives has contributed to the stability of the banking system by allowing banks, especially the largest, systemically important banks, to measure and manage their credit risks more effectively."), https://www.federalreserve.gov/boarddocs/speeches/2005/20050505/.

112 BETTER MARKETS, THE COST OF THE CRISIS: $20 TRILLION AND COUNTING (2015), https://bettermarkets.com/sites/default/files/Better%20Markets%20-%20Cost%20of%20the%20Crisis.pdf.

Thus, before approving the Application, the CFTC (after a robust process that enables and facilitates substantial meaningful public input) should engage in the formal rulemaking process, proposing and issuing for public comment a comprehensive framework that both adequately addresses the known risks arising from FTX's Application and also provides sufficient buffers to protect against the unintended consequences and other unforeseen or unforeseeable developments that will arise if the FTX Application were to be approved. Among other things, these can and should include significant capital requirements, a comprehensive stress testing framework, meaningful oversight of backstop liquidity providers (if that indeed ends up being part of FTX's model), and other protections that will not only focus on the financial stability of FTX, other DCOs, the financial system, and the economy, but also customers and other market participants. These conditions are essential if, as is likely, FTX's model does not work exactly as intended or predicted, notwithstanding good faith representations, compliance, and operation. Moreover, those requirements must include robust frequent granular reporting requirements to the CFTC, so that the CFTC can monitor the functioning of the markets under FTX's model. Finally, the CFTC should also mandate that FTX provide maximum public disclosure of as much information as possible so that the public can also see, review, and analyze FTX's activities vis-à-vis the statements and representations made in connection with its pending Application.

CONCLUSION

We hope these comments are helpful as the Commission finalizes the Proposal.

Sincerely,

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EXHIBIT

SECURITIES—DEMOCRATIZING EQUITY MARKETS WITH AND WITHOUT EXPLOITATION: ROBINHOOD, GAMESTOP, HEDGE FUNDS, GAMIFICATION, HIGH FREQUENCY TRADING, AND MORE

DENNIS M. KELLEHER, JASON GRIMES, & ANDRES CHOVIL*

The stock trading frenzy of January 2021 brought a relatively new player in the securities markets into public consciousness—the platforms offering no- or low-commission trading that seek to appeal to young and less-experienced investors with a "fun" if not "delightful" user experience. Most prominent among these new brokers is Robinhood, with a slick mobile phone app, which claims that its platform will "democratize finance" by making investing cheaper and easier for the masses who have been looked down upon and locked out by the wealthy elites of Wall Street.

However, Robinhood's claims of "democratization" have all the hallmarks of manipulation and exploitation, making Robinhood's founders multibillionaires while many of its retail customers suffer financial ruin. That is because platforms like Robinhood take arguably legal kickbacks for routing their customer orders—known as payment for order flow—to high frequency trading firms which execute those orders, almost always in dark, off-exchange venues. To maximize those kickbacks, Robinhood's mobile trading app is gamified via predatory digital engagement practices to disarm its customers' financial self-defense mechanisms and prompt as much frequent and risky trading as possible. Such trading behavior has been shown to be highly detrimental to retail investors, and indeed many of Robinhood's customers have been harmed by engaging in such practices, some grievously. The result is that, unlike the legend of Robin Hood stealing from the rich and giving to the poor, the Robinhoods of the world are taking from the less-experienced and enriching themselves and their fellow Wall Street billionaires.

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But it does not have to be this way. Finance can be genuinely democratized (easier access, lower costs, user-friendly financial tools, etc.) and trading can be demystified in ways that facilitate wealth creation rather than wealth extraction. However, for that to happen, regulators must enforce existing laws and rules against illegal conduct and impose meaningful penalties on individual corporate officers that punish and deter. Regulators must also enact new rules to prohibit, for example, predatory digital engagement practices. Once the highly profitable lawbreakers and predators are shut down, the financial industry can focus on serving Main Street investors rather than exploiting them to enrich Wall Street.

INTRODUCTION

In January 2021, the stock trading platform Robinhood Markets (Robinhood), easily downloadable as an app to a mobile phone, burst into the public consciousness. With it came Robinhood's promises to "democratize finance" and usher in a "new Wall Street" where young Main Street denizens could make money like the privileged and wealthy elites.[1] Although Robinhood was founded eight years earlier, it received little if any attention until it got saturation media coverage when the prices of a small number of stocks popular on the platform fluctuated wildly for little, if any, apparent fundamental reason. Foremost among those stocks was GameStop, a brick-and-mortar video game retailer.

That stock price volatility was largely due to unprecedented levels of trading by new retail investors on the Robinhood mobile phone app, many of whom apparently were simultaneously chatting about those stocks online in various Reddit forums, the "r/wallstreetbets" subreddit most prominently.[2] Those stocks were quickly dubbed "meme stocks."[3]

The story was propelled by reporting that this new "army" of retail investors was part of a so-called "Reddit rebellion" hellbent on inflicting significant losses on Wall Street hedge fund billionaires whom they thought were unfairly attacking certain companies and their stocks via substantial short positions.[4] Contributing to the media firestorm were

1. *See* GAMING WALL ST (HBO Max 2022) (telling numerous stories of people using the Robinhood app and caught up in the trading frenzy).

2. *See* Jake Widman, *What Is Reddit*, DIGITALTRENDS (July 5, 2021), https://www.digitaltrends.com/web/what-is-reddit/ [https://perma.cc/RGP2-T28Y] (explaining jargon and design of Reddit, including subreddits, the names of which begin with "r/").

3. Melanie Schaffer, *The Rise and Fall of Meme Stocks*, YAHOO!FINANCE (Feb. 8, 2021), https://finance.yahoo.com/news/rise-fall-meme-stocks-153302553.html [https://perma.cc/Y4KE-X633].

4. *See* Allison Morrow, *Confused About This GameStop Saga? Here Are the 5 Things You Need to Know*, CNN BUS. (Jan. 30, 2021, 4:44 PM), https://www.cnn.com/2021/01/30/business/gamestop-reddit-rebellion-explained/index.html

attention-grabbing phrases like "diamond hands" and "to the moon" with associated eye-catching icons as well as a cast of colorful characters, including "apes" and one sensation posting on r/wallstreetbets under the username "DeepFuckingValue" and on YouTube and Twitter as "Roaring Kitty."

Fulfilling the always appealing underdog David vs. Goliath storyline, the initial narrative was that the new retail investors had bested the hedge fund billionaires when some, Melvin Capital in particular, began suffering significant losses as their short positions on the so-called "meme stocks" were squeezed. The celebration was short lived, however, when Robinhood suddenly, and without notice, prevented its new retail army of customers from buying certain stocks, including GameStop, just as they were reaching unimaginable, indeed stratospheric, price levels. Robinhood's actions had the effect of largely eliminating the buy side on those meme stocks. That caused those stock prices to crater, allowing the short sellers to limit their losses by covering their positions at lower, indeed, collapsing prices. That action, however, also inflicted massive losses on Robinhood's retail customers who had bought the stocks at elevated prices and were stuck holding them as they crashed. Sure, the retail investors could sell, but doing so only accelerated the price collapse and increased their losses. Moreover, some customers who had purchased stocks on margin as prices skyrocketed had to then panic-sell those stocks to meet margin calls as the prices fell precipitously.

As Robinhood started to look more like the Sherriff of Nottingham than its legendary namesake the real Robin Hood, its claims to democratize finance came under scrutiny. It had attracted this army of retail traders based on marketing claims of enabling and empowering the little guy to get rich in the stock market like the big guys, including claims of (1) commission-free trading; (2) no minimum account balances; (3) fractional share purchases; (4) easy access; (5) easy use; (6) a "delightful" experience; and (7) giving people what they want (as determined by Robinhood). As one Robinhood customer said, "I was drawn by the promise of commission-free trades and the lack of account minimums. To a 24-year-old—investing by the Jackson [twenty-dollar bill] rather than by the Benjamin [hundred-dollar bill]—that was especially useful."[5]

However, as is often the case, the reality was much more complicated. Robinhood's methods to generate revenue and profits did not fit well with the legendary do-gooder Robin Hood known for taking from the rich to

[https://perma.cc/6P5T-HLWZ].

5. Mark Helenowski & Hannah Levintova, *Trade More. Think Less. How Robinhood's Design Gets Inside Your Brain*, MOTHER JONES (Oct. 7, 2021), https://www.motherjones.com/media/2021/10/robinhood-trading-app-design-ui-ux-video/ [https://perma.cc/9WUZ-RJ6A].

give to the poor. Rather, Robinhood employed a suspect business model that depended upon its customers trading more and more so that it could sell those orders to high frequency trading (HFT) firms like Citadel Securities. This payment scheme is known as "payment for order flow" (PFOF), which looks a lot like kickbacks or legalized bribery with all the attendant perverse incentives and conflicts of interest. It turns out that Robinhood was essentially working *with* the rich to make themselves rich, not taking *from* the rich.[6]

Robinhood and others claim that PFOF is beneficial to its customers because it ostensibly enables "commission-free trading" (which, not coincidentally is heard by many as "free trading").[7] That "evoke[s] a key lesson of the digital age: If something is free, then you're not the customer—you're the product being sold."[8] In this case, sold to HFT firms like Citadel Securities. That business model made billionaires of Robinhood's founders and enriched the billionaire owners of HFT firms like Citadel Securities' Ken Griffin. The rich got richer and the losses for Robinhood's customers grew,[9] a scenario that calls to mind Fred Schwed's classic 1955 book, *Where Are the Customers' Yachts? Or A Good Hard*

6. These can be dry, complicated issues—especially payment for order flow—but they have nonetheless been the subject of two recent shows that present them in understandable and informative, if not entertaining, ways. One is the HBO Max documentary referred to in note 1 above. The other is a recent episode of *The Problem with Jon Stewart*. *See The Problem with Jon Stewart: Stock Market* (Apple TV+ Mar. 3, 2022). *See also* SPENCER JAKAB, THE REVOLUTION THAT WASN'T: GAMESTOP, REDDIT, AND THE FLEECING OF SMALL INVESTORS (2022) (a book-length examination of how online brokers that claim to democratize finance actually benefit Wall Street at the expense of retail investors).

7. *See infra* Section III.B.

8. Hannah Levintova, *Robinhood Promises Free Trades. Did Alex Kearns Pay with His Life?*, MOTHER JONES (April 29, 2021), https://www.motherjones.com/politics/2021/04/robinhood-gamestop-free-trades-alex-kearns/ [https://perma.cc/G3XM-9NJ9].

9. Whether ironic or tragic, it is worth noting that many of Robinhood's customers believed (as clearly if vulgarly expressed in the r/wallstreetbets forum) that their actions were going to stick it to Wall Street's billionaires. They did inflict billions in losses on at least one billionaire, Gabe Plotkin, the owner of Melvin Capital, but every trade they made to implement that desire not only enriched billionaires like Ken Griffin at Citadel but made billionaires of Robinhood's founders and will even likely make billionaires of the owners and investors in Reddit. *See* Michael Hytha & Priya Anand, *Reddit Files for IPO After Igniting the Year's Meme Stock Frenzy*, BLOOMBERG (Dec. 15, 2021, 11:09 PM), https://www.bloomberg.com/news/articles/2021-12-16/media-platform-reddit-says-it-filed-confidentially-for-u-s-ipo?sref=mQvUqJZj [https://perma.cc/99AH-S6QB]. Reddit reacted predictably. Kai Schultz, *WallStreetBets Jokes of Pumping Reddit Stock After IPO Filing*, BLOOMBERG (Dec. 16, 2021, 12:40 AM), https://www.bloomberg.com/news/articles/2021-12-16/wallstreetbets-jokes-of-pumping-reddit-stock-after-ipo-filing?srnd=premium&sref=mQvUqJZj [https://perma.cc/83V5-YCR5] ("[T]he pile-ons were plentiful, the profanity more so . . . .").

Look at Wall Street.[10]

To further complicate the story, Ken Griffin's Citadel Securities was paying Robinhood for more than half of its customers' order flow[11] while funds in Griffin's $43 billion hedge fund,[12] Citadel LLC, and the firm's partners (believed to include Griffin himself) invested $2 billion in Melvin Capital, the leading hedge fund that had shorted GameStop and other meme stocks during the January 2021 trading frenzy.[13] This emergency injection of funds (along with investments from others) enabled Melvin Capital to cover its short position and limit its losses at the same time at least some of Robinhood's retail customers were taking significant losses.[14]

Even before these events, many of Robinhood's business practices had already come under intense regulatory scrutiny. For example, in 2020, the company settled with the Securities and Exchange Commission (SEC) for $65 million.[15] In 2021, the company settled with the Financial

10. *See generally* FRED SCHWED, JR., WHERE ARE THE CUSTOMERS' YACHTS? OR A GOOD HARD LOOK AT WALL STREET (1955) (explaining how stockbrokers get filthy rich even when their clients go broke following their advice).

11. Douglas MacMillan & Yeganeh Torbati, *Robinhood and Citadel's Relationship Comes into Focus as Washington Vows to Examine Stock-Market Moves,* WASH. POST (January 29, 2021, 5:49 PM), https://www.washingtonpost.com/business/2021/01/29/robinhood-citadel-gamestop-reddit/ [https://perma.cc/THH9-3WP6].

12. Katherine Burton & Nishant Kumar, *Millennium, Citadel Winning the War to Keep Client Cash Longer*, BLOOMBERG (Dec. 6, 2021, 10:16 AM), https://www.bloomberg.com/news/articles/2021-12-06/millennium-citadel-winning-the-war-to-keep-client-cash-longer?srnd=premium&sref=mQvUqJZj [https://perma.cc/8ZWV-7THD].

13. Katherine Burton, *Citadel, Point72 Back Melvin with $2.75 Billion After Losses*, BLOOMBERG (Jan. 25, 2021, 5:00 PM), https://www.bloomberg.com/news/articles/2021-01-25/citadel-point72-to-invest-275-billion-in-melvin-capital?sref=mQvUqJZj [https://perma.cc/AF3C-3N9S]; *see also* Juliet Chung, *Hedge Fund Melvin Lost $6.8 Billion in a Month. Winning It Back Is Taking a Lot Longer*, WALL ST. J. (Jan. 28, 2022, 9:51 AM), https://www.wsj.com/articles/melvin-plotkin-gamestop-losses-memestock-11643381321 [https://perma.cc/25XY-JSH4]. Citadel has reportedly reduced its investment in Melvin by half. Juliet Chung & Susan Pulliam, *Citadel Is Further Paring Back $2 Billion Melvin Investment,* WALL ST. J. (Feb. 24, 2022, 8:51 AM), https://www.wsj.com/articles/citadel-is-further-paring-back-2-billion-melvin-investment-11645710666 [https://perma.cc/29PR-6WHW]. Point72 has also redeemed $750 million of its investment from Melvin Capital. Hema Parmer, *Steve Cohen's Point72 to Redeem $750 Million From Hedge Fund Melvin*, BLOOMBERG (Mar. 12, 2022, 11:51 AM), https://www.bloomberg.com/news/articles/2022-03-12/cohen-s-point72-to-redeem-750-million-from-hedge-fund-melvin?sref=mtQ4hc2k [https://perma.cc/2QB8-D3EB].

14. Adding insult to injury, not only were losses inflicted on Robinhood's retail customers due to the price collapse precipitated by its buying halt (causing more than $30 billion in market cap losses by February 9, 2021), but Robinhood also made money on every sell trade a customer made to cut their losses as the prices dropped or to cover margin calls.

15. Robinhood Fin., LLC, Securities Act Release No. 10906, Exchange Act Release No. 90694, at 7 (Dec. 17, 2020), https://www.sec.gov/litigation/admin/2020/33-10906.pdf [https://perma.cc/B7UV-4NW4] (noting that Robinhood had "unusually high [PFOF] rates").

Industry Regulatory Authority (FINRA) for a record-breaking $70 million.[16] The more recent events have precipitated numerous additional legal actions against Robinhood, including yet more investigations by the SEC and FINRA as well as a lawsuit by the Massachusetts secretary of state and several class actions.[17]

Nor do the events of January 2021 reflect all of the questionable business practices, tactics, and actions of Robinhood and other similar trading platforms. For example, how did Robinhood get this new army of retail customers to trade so frequently, including often with high-risk products like options, which were extremely lucrative for Robinhood to sell to the likes of Citadel Securities? In addition to Robinhood's democratizing and marketing claims listed above, the answer lies in how Robinhood designed its platform. While some have coined the term "gamification" to refer to the various features created and used to attract and keep customers on the app and frequently trading, the SEC, appropriately, refers to these features using the broader term "digital engagement practices," or DEPs.[18]

DEPs can be neutral or even beneficial. However, in the case of Robinhood and similar trading platforms, they can also be intensely predatory with devastating—and sometimes lethal—results.[19] Like the bright lights and design of the casinos in Las Vegas, there is reason to believe that Robinhood carefully designed, calibrated, and tailored its DEPs to get its customers' dopamine and endorphins flowing, to disarm their self-defense mechanisms, and to subliminally prompt them to engage

16. *See* FINANCIAL INDUSTRY REGULATORY AUTHORITY LETTER OF ACCEPTANCE, WAIVER, AND CONSENT NO. 2020066971201 (2021) [hereinafter FINRA LETTER], https://www.finra.org/sites/default/files/2021-06/robinhood-financial-awc-063021.pdf [https://perma.cc/N3SN-GF3E] ($57 million fine and $13 million in restitution).

17. Megan Leonhardt, *Robinhood Now Faces Roughly 50 Lawsuits After GameStop Trading Halt—Here's How Customers Might Actually Get Their Day in Court*, CNBC MAKE IT (Aug. 31, 2021, 12:17 PM), https://www.cnbc.com/2021/02/17/robinhood-faces-lawsuits-after-gamestop-trading-halt.html [https://perma.cc/M374-TDUF]; Administrative Complaint, Robinhood Financial, LLC, No. E-2020-0047 (Mass. Off. of Sec'y State, Sec. Div. Dec. 16, 2020) [hereinafter Administrative Complaint]. Robinhood sued the Massachusetts Secretary of State seeking to stop the administrative action and a Massachusetts Superior Court declared that the Secretary of State's fiduciary duty rule, which the administrative complaint alleges Robinhood violated, exceeded the Secretary's authority and is, accordingly, invalid. Robinhood Fin., LLC v. Galvin, Blue Sky L. Rep. (CCH) ¶ 75,345 (Mass. Super. Ct. Mar. 30, 2022), https://fingfx.thomsonreuters.com/gfx/legaldocs/dwvkrqkbzpm/03302022robinhood.pdf [https://perma.cc/4L7Z-JKXH].

18. Request for Information and Comments on Broker-Dealer and Investment Adviser Digital Engagement Practices, Related Tools and Methods, and Regulatory Considerations and Potential Approaches; Information and Comments on Investment Adviser Use of Technology to Develop and Provide Investment Advice, 86 Fed. Reg. 49,067 (Sept. 1, 2021).

19. *See infra* Section III.E.

in thoughtless, frequent trading.[20] This is particularly true among Robinhood's targeted audience of young, new, and less-experienced traders. The result is that Robinhood extracts multiples more in value from each of its customers than any other retail trading firm.[21]

Viewed in this light, Robinhood's claims of "democratization" appear to be, at least in part, manipulation and exploitation, from its name, hat, and feather logo to its ticker symbol HOOD. Enriching HFT and hedge fund billionaires[22] while making the founders of Robinhood themselves billionaires from the trading of its customers would seem to be inconsistent not only with the Robin Hood legend, but also with Robinhood's marketing, claims, and, often, disclosures (at least according to the SEC's allegations). That is why criticism has rained down on Robinhood, including from famed investor and Warren Buffet partner Charlie Munger who said that Robinhood is "a gambling parlor masquerading as a respectable business."[23]

As practiced by the Robinhoods of the world, democratizing finance appears to be a veil used to hide and disguise a panoply of exploitative, wealth extraction features. While they may indeed provide greater and easier access to the markets, they are apparently designed to do so in a manner that makes the customers easy marks to be taken advantage of by sophisticated financial professionals like the founders, owners, and business associates of Robinhood. This results in a massive transfer of wealth from the new, less-experienced traders to the sophisticated and already rich financial professionals. Thus, Robinhood appears to have more of the trappings of the Sheriff of Nottingham than its namesake.

It does not have to be this way. Finance can and should be genuinely democratized. More people, including those who are young, less-

20. *See, e.g.*, Mother Jones, *Robinhood's Design Won Awards. Now, It's the Problem*, YOUTUBE (Oct. 7, 2021), https://www.youtube.com/watch?app=desktop&v=7HKZFGdSOhs&t=1s [https://perma.cc/XN5E-HBUV]; Helenowski & Levintova, *supra* note 5.

21. Tomio Geron, *Data Shows How Robinhood Makes More Money from Its Users Than Other Brokers*, PROTOCOL (Jul. 15, 2021), https://www.protocol.com/fintech/payment-for-order-flow [https://perma.cc/EBM5-7FK4].

22. It is interesting, if not telling, that Robinhood's cofounders built HFT trading platforms for Wall Street firms prior to founding Robinhood. Jeff Kauflin & Antoine Gara, *The Inside Story of Robinhood's Billionaire Founders, Option Kid Cowboys and the Wall Street Sharks That Feed on Them*, FORBES (Aug. 19, 2020, 6:30 AM), https://www.forbes.com/sites/jeffkauflin/2020/08/19/the-inside-story-of-robinhoods-billionaire-founders-option-kid-cowboys-and-the-wall-street-sharks-that-feed-on-them/?sh=6e8f4c34268d [https://perma.cc/PKF8-ASLH].

23. Nicolas Vega, *Charlie Munger Calls Robinhood 'A Gambling Parlor'—Here's How Warren Buffet Says to Invest Instead*, CNBC MAKE IT (June 30, 2021, 4:54 PM), https://www.cnbc.com/2021/06/30/charlie-munger-warren-buffett-dont-stock-pick.html [https://perma.cc/U6NL-S9S4].

experienced, and less wealthy, should be able to participate and invest in the stock market and accumulate wealth. That would be good not only for them, but also for capital formation, price discovery, the economy and, ultimately, the country. That democratization could include lower costs, ease of access and use, and even a "delightful" experience. It could even include the use of DEPs, but those employed in a way that properly informs investors about risks and costs of different types of investing and trading, not those that are full of tricks and traps that invisibly exploit Main Street customers and extract their wealth to enrich others. While undoubtedly this would be less lucrative for trading platforms (at least in the short term), it could nonetheless be an important part of a wealth creation system for the many rather than a wealth extraction mechanism for the few.[24]

In Part I of this Article, we review in more detail the GameStop and meme stock trading frenzy in the winter of 2021 and the rise of Robinhood and other trading platforms. In Part II, we explore the practice of PFOF, some of the controversies surrounding the conflicts it introduces for brokers, and its impact on markets and explain how lucrative PFOF payments have enabled the recent rise of trading platforms like Robinhood that use DEPs to maximize their PFOF revenue. In Part III, we look at the trading platforms themselves, especially Robinhood, and how their predatory use of PFOF-fueled DEPs induces customers to engage in behavior that is lucrative for the platforms but detrimental, if not ruinous, for the customers. Finally, in Part IV, we explore some of the options available to the SEC to address the investor protection concerns raised by PFOF and DEPs, which, done right, could reduce the exploitation while enabling genuine democratization of finance and access to the stock market.

I. GAMESTOP AND THE MEME STOCK FRENZY OF WINTER 2021

At the beginning of 2020, the stock of GameStop, a publicly traded company listed on the New York Stock Exchange, was trading around six

24. *See, e.g.,* Sayan Chaudhry & Chinmay Kulkarni, *Design Patterns of Investing Apps and Their Effects on Investing Behaviors*, *in* PROCEEDINGS OF THE 2021 ACM DESIGNING INTERACTIVE SYSTEMS CONFERENCE: JUNE 28–JULY 2, 2021, NOWHERE AND EVERYWHERE 777, 784 (2021), https://dl.acm.org/doi/pdf/10.1145/3461778.3462008 [https://perma.cc/CV8C-YY5X] (identifying a set of "best practices" to apply when designing a trading platform that would encourage more deliberative and less impulsive trading).

dollars a share.[25] By April 2020, it was as low as three dollars a share.[26] That low share price appeared to reflect the condition, competition, and prospects for the struggling video game retailer. Like other brick-and-mortar retailers, it has to compete with the likes of Amazon, which offers consumers the ability to purchase almost any product without leaving their couch. Even worse for GameStop, consumers of games, or "gamers," no longer need to purchase physical copies of games. Instead, they can simply download games directly to their console, eliminating much of the reason for anyone to go to a brick-and-mortar store like GameStop.[27] These factors and others had led to several consecutive years of declining revenues and increasing losses.[28] And, most of that was before the economic shock and lockdowns caused by the COVID-19 pandemic, which hit physical retailers like GameStop hard, making its previous problems much worse.

Despite these facts and the fundamental analysis that flows from them, GameStop's share price experienced an increased volume of trading, increased volatility, and, overall, an increase in share price over the remaining months of 2020.[29] Some of this may have been driven by news directly relevant to GameStop (including an August investment by a founder which coincided with an approximately twenty-four percent increase in share price). However, some of that buying interest seems to have been driven by increasing attention from retail traders in online chat

25. *See* SEC. & EXCH. COMM'N, STAFF REPORT ON EQUITY AND OPTIONS MARKET STRUCTURE CONDITIONS IN EARLY 2021 at 17 (2021), https://www.sec.gov/files/staff-report-equity-options-market-struction-conditions-early-2021.pdf [https://perma.cc/D43P-F2UT] [hereinafter SEC STAFF GAMESTOP REPORT]. It is important to note that some academics (who identified additional material data) have raised very serious questions about the analysis and conclusions in this report, in particular the conclusion that the dramatic appreciation in the price of meme stocks was not the result of a short squeeze or gamma squeeze. *See AD HOC* ACAD. COMM., A REPORT BY THE *AD HOC* ACADEMIC COMMITTEE ON EQUITY AND OPTIONS MARKET STRUCTURE CONDITIONS IN EARLY 2021 (2022), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4030179 [https://perma.cc/7K42-8HVJ]; *see also* Joshua Mitts et al., *An Academic Critique of the SEC's GameStop Report,* CLS BLUE SKY BLOG (Feb. 22, 2022), https://clsbluesky.law.columbia.edu/2022/02/22/an-academic-critique-of-the-secs-gamestop-report/ [https://perma.cc/Y924-4NQR]. However, those academics do not appear to question the SEC's recitation of the facts related to the meme stock frenzy and, therefore, we cite the report for those facts, not the analysis or conclusions.

26. *Id.*

27. While it is not over yet, this story is similar to the stories where people had to rent movies on tape to play in their VCRs, all of which was entirely eliminated first by Netflix mailing direct to your home and later by streaming and other online video delivery platforms. *See* Frank Olito, *The Rise and Fall of Blockbuster*, INSIDER (Aug. 20, 2020, 3:30 PM), https://www.businessinsider.com/rise-and-fall-of-blockbuster [https://perma.cc/P5Q5-XDJP].

28. *See* GameStop Corp., Annual Report (Form 10-K) (Mar. 23, 2021), https://gamestop.gcs-web.com/static-files/55a92a3e-144e-4d2b-8ee6-930db9045593 [https://perma.cc/T2BA-L2H5].

29. SEC STAFF GAMESTOP REPORT, *supra* note 25, at 17.

forums like r/wallstreetbets, a subreddit on the website Reddit, which, among other things, provides myriad discussion forums.[30] A number of those traders noted that GameStop had a short interest ratio of eighty-four percent in April 2020.[31] Ultimately, on December 31, 2020, GameStop stock closed at $18.84 a share, up significantly from its three-dollar low in April. However, even this largely inexplicable price increase could not foreshadow what would happen next for GameStop.

Over the course of the first few weeks of 2021, the price of GameStop stock skyrocketed notwithstanding the absence of any fundamental change in GameStop's business or public disclosures. An SEC staff report on the market turmoil straightforwardly describes the extraordinary price rise and volatility experienced by GameStop during this period:

> GME's price and volume began to increase noticeably on January 13, when the closing price rose to $31.40 from $19.95 the prior day, and the share volume rose to approximately 144 million shares, compared with approximately 7 million shares the day before. On January 22, 2021, the price of GME rose from $43 to $72 (a 71% increase) in approximately three hours. By January 27, GME closed at a high of $347.51 per share, representing a more than 1,600% increase from its closing price on January 11. The following day [January 28], share prices jumped further to an intraday high of $483.00. As the price increased, so too did the trading volume. From January 13–29, an average of approximately 100 million GME shares traded per day, an increase of over 1,400% from the 2020 average. On January 22, 2021, the day of GME's highest share volume in the month, 197.2 million GME shares traded.
>
> Overall, GME's intraday share price increased approximately 2,700% from its intraday low on January 8 to its intraday high on January 28, followed by a decrease of over 86% from that day to the closing price at the end of the first week of February. The daily closing price changes at the end of January were also highly volatile in dollar terms, ranging from a rise of $199.53 (between January 26 and 27) to a fall of $153.91 (between January 27 and January 28).[32]

Suffice it to say, the business prospects of GameStop did not suddenly improve by 1,600% over the course of a couple of weeks. Instead, GameStop had become a meme stock—typically, a low-value stock

30. *See* Staff, *Reddit Recap 2021*, UPVOTED (Dec. 8, 2021), https://www.redditinc.com/blog/reddit-recap-2021 [https://perma.cc/3VBB-9QKZ] (noting three posts on the r/wallstreetbets subreddit related to GameStop are among the five most upvoted posts of the year).

31. SEC STAFF GAMESTOP REPORT, *supra* note 25, at 18.

32. *Id.* at 18–19.

viewed skeptically by financial analysts at Wall Street's biggest banks, hedge funds, and elsewhere, and often heavily shorted, that customers of online forums such as Reddit's r/wallstreetbets rally around, often to trigger a short squeeze.[33]

In fact, GameStop, often referred to as "the poster child for the meme stock movement,"[34] was only the most prominent of the meme stocks. Several other stocks targeted by online trading communities also experienced significant price increases amidst heightened trading volume and increased volatility in January 2021. For example, AMC, a beleaguered movie chain battered by pandemic lockdowns, saw its price increase nearly tenfold, from $2.27 at the end of 2020 to $20.36 on January 27, 2021; BlackBerry, makers of the once-ubiquitous smart phones that were popular with (and seen as a symbol of) the on-the-go professional set in the 2000s, but whose products had been surpassed by Apple's iPhone and Samsung's Galaxy, among others, saw its share price nevertheless more than quadruple from $6.63 at the end of 2020 to $28.77 on January 27, 2021; the share price of headphone manufacturer Koss, Corp., which struggled to compete with the likes of Apple and Bose, and which saw a sixteen percent decline in revenue in 2020, rose from $3.44 a share at the end of 2020 to $112.84 a share on January 28, 2021, an even more pronounced percentage increase than GameStop's meteoric rise over the same period.[35]

The volatility around GameStop and other meme stocks, largely divorced from business fundamentals or material market information, put a significant amount of stress on markets and market participants. The most prominent example was how the rapid increase in the share prices of struggling companies put pressure on short sellers. This included in particular the Melvin Capital hedge fund, which had a significant short interest in GameStop and which, accordingly, was racking up huge losses as the stock price climbed (ultimately leading to an emergency investment of more than $2.75 billion from hedge funds Citadel LLC and Point72, to prevent Melvin Capital from going bankrupt).[36]

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33. *See* Schaffer, *supra* note 3.

34. Molly Schuetz, *GameStop Reports Wider Loss Amid Lack of News on Strategy*, BLOOMBERG, (Dec. 8, 2021, 5:51 PM), https://www.bloomberg.com/news/articles/2021-12-08/gamestop-reports-wider-loss-as-investors-await-news-on-strategy?sref=mQvUqJZj [https://perma.cc/G5KS-CZS6].

35. Taylor Tepper, *The Rise and Fall of the GameStop Meme Stocks*, FORBES ADVISOR (Feb. 4, 2021, 3:47 PM), https://www.forbes.com/advisor/investing/gamestop-meme-stocks-bb-amc-nok/ [https://perma.cc/8YEF-5294].

36. Juliet Chung, *Citadel, Point72 to Invest $2.75 Billion into Melvin Capital Management*, WALL ST. J. (Jan. 25, 2021, 3:49 PM), https://www.wsj.com/articles/citadel-point72-to-invest-2-75-billion-into-melvin-capital-management-11611604340?mod=article_inline [https://perma.cc/VLK7-VFLJ]. It was Citadel's hedge fund business that made the investment in Melvin Capital. *See* MacMillan & Torbati, *supra* note 11.

Moreover, as market volatility increased, some broker-dealers had trouble meeting their financial commitments to clearinghouses, ostensibly spurring them to restrict buy-side trading in GameStop and other meme stocks. Among other things, this broker buying halt gave "hedge funds [like Melvin Capital] who'd bet on its decline [i.e., shorted the stock] valuable time to recover."[37]

Most infamously, Robinhood, the highly popular trading platform for retail investors, on which many shares of GameStop were being traded during the frenzy, suddenly halted the ability of its clients to buy GameStop and certain of the other meme stocks on January 28, 2021.[38] Those restrictions were not fully lifted by Robinhood until February 5, 2021.[39]

These buying halts by Robinhood and others effectively created a one-sided market where the demand-side from buy orders largely disappeared, resulting in a price collapse from a flood of sell orders. That market reaction had a severe adverse impact on many investors—GameStop closed at $193.60 on January 28, 2021, down from its close at $347.51 the previous day and down even further from its intraday high that day of $483.[40] According to lawsuits filed in response to the trading halt, the price drop was a direct result of the buying halt because it triggered a sell-off that caused the share price of GameStop and other meme stocks to plummet. This left many investors who had bought stock as the price was going up selling into a suddenly declining market, resulting in significant losses for retail investors who had "to choose between selling the [stocks subject to Robinhood's buying halt] at a lower price or holding their rapidly declining positions in the [stocks subject to Robinhood's buying halt]."[41] Indeed, by February 4, 2021, GameStop's

Citadel also separately operates a market-maker and high-frequency trading business under the name Citadel Securities which, as explained below, is one of the biggest purchasers of order flow from Robinhood. *See id.*

37. Levintova, *supra* note 8.

38. Leonhardt, *supra* note 17. Robinhood cited several reasons for its restriction on buying GameStop and other meme stocks, including the need to deposit hundreds of millions of dollars with clearinghouses because of the extreme market volatility. *What Happened This Week*, ROBINHOOD (Jan. 29, 2021), https://blog.robinhood.com/news/2021/1/29/what-happened-this-week [https://perma.cc/P9ZX-4J7N].

39. Adam Gabbatt, *Robinhood Lifts All Trading Restrictions Including GameStop and AMC Shares*, GUARDIAN (Feb. 5, 2021), https://www.theguardian.com/business/2021/feb/05/robinhood-lifts-trading-restrictions-gamestop-amc-shares [https://perma.cc/W9PK-VA95].

40. *See* SEC STAFF GAMESTOP REPORT, *supra* note 25, at 18–19; Yun Li & Jesse Pound, *GameStop's Stock Closes Down More than 40% After Brokers Place Restrictions on Trades*, CNBC (Jan. 28, 2021, 4:16 PM), https://www.cnbc.com/2021/01/28/gamestop-reverses-losses-and-surges-another-30percent-in-the-premarket-to-450-as-mania-continues.html [https://perma.cc/6DHK-ZWRR].

41. Consolidated Class Action Complaint at 5, *In re* January 2021 Short Squeeze Trading

stock had slid to $53.50, imposing "heavy losses" on retail investors.[42]

As a result, as of February 9, 2021, less than two weeks from its peak, *GameStop had lost more than $30 billion in market capitalization*,[43] an indication of the potential magnitude of losses suffered by retail investors who bought in during the frenzy.[44]

Nonetheless, there are some who saw the unprecedented turmoil that rocked the market in January 2021 as essentially no big deal or, alternatively, as evidence of the strength of the U.S. securities markets.[45]

Litigation, No. 21-2989-mdl-altonga (S.D. Fla. Jul. 27, 2021); *see also* Leonhardt, *supra* note 17; SEC STAFF GAMESTOP REPORT, *supra* note 25, at 18. Many suspected something nefarious in the Robinhood trading halt. As discussed below, Robinhood makes its money by selling its customer orders to market makers and high-frequency traders (HFTs), a practice known as PFOF. *See supra* note 15 and accompanying text. For example, Citadel Securities (an HFT) pays Robinhood, and other brokers, a significant amount of money for their retail order flow. MacMillan & Torbati, *supra* note 11. Given that just a few days earlier, Citadel had participated in a multi-billion-dollar bailout of Melvin Capital, which was facing staggering losses as a result of its short interest in GameStop and other meme stocks, many speculated that Robinhood's trading halt was the result of Robinhood bowing to pressure from one of its biggest and most important revenue providers. *Id.* However, all involved have denied any connection, and no evidence has emerged publicly to support the claims that Robinhood halted trading for reasons other than for financial and risk management, although it did initially provide other reasons for the halt. Jeff Kearns & Hema Parmar, *Robinhood, Citadel Reject Conspiracy Claims That They Halted 'Meme' Trades*, L.A. TIMES (Feb. 17, 2021, 5:08 PM), https://www.latimes.com/business/technology/story/2021-02-17/robinhood-citadel-reject-conspiracy-claims-they-halted-meme-trades [https://perma.cc/2SAR-JC7K].

42. *See* Drew Harwell, *As GameStop Stock Crumbles, Newbie Traders Reckon With Heavy Losses*, WASH. POST (Feb. 2, 2021, 5:34 PM), https://www.washingtonpost.com/technology/2021/02/02/gamestop-stock-plunge-losers/ [https://perma.cc/F3SD-RR8E]; Daniel Raddenbach, *RobinHood's Goal Is Not to 'Democratize Finance for All': Don't Expect GameStop Buyers' Lawsuits to Change That*, MINN. L. REV. BLOG (Apr. 13, 2021), https://minnesotalawreview.org/2021/04/13/robinhoods-goal-is-not-to-democratize-finance-for-all-dont-expect-gamestop-buyers-lawsuits-to-change-that/?utm_source=rss&utm_medium=rss&utm_campaign=robinhoods-goal-is-not-to-democratize-finance-for-all-dont-expect-gamestop-buyers-lawsuits-to-change-that [https://perma.cc/B2CG-635X].

43. Bailey Lipschultz, *GameStop Extends Drop, Erases $30 Billion in Value From Peak*, BLOOMBERG (Feb. 9, 2021, 11:19 AM), https://www.bloomberg.com/news/articles/2021-02-09/gamestop-selloff-deepens-erasing-30-billion-in-value-from-peak?sref=mtQ4hc2k [https://perma.cc/9ZM2-LCRT].

44. It is worth noting that volatility and shareholder losses have continued long after the January 2021 trading frenzy. *See, e.g.*, Alexander Osipovich, *GameStop, AMC Share Prices Fall in Blow to Meme-Stock Investors*, WALL ST. J. (Dec. 13, 2021), https://www.wsj.com/articles/gamestop-and-amc-stocks-fall-in-blow-to-memestock-investors-11639422003 [https://perma.cc/J4DX-YGGJ].

45. *See Game Stopped? Who Wins and Loses When Short Sellers, Social Media, and Retail Investors Collide: Hearing Before the H. Comm. on Fin. Servs.,* 117th Cong. 1 (2021), https://financialservices.house.gov/uploadedfiles/hhrg-117-ba00-wstate-blaugrundm-20210317.pdf [https://perma.cc/PQH6-HKH3] (testimony of Michael Blaugrand, Chief Operating Officer of the New York Stock Exchange) ("At each of these times of stress, market

However, to their credit, important policymakers saw through this and have treated the meme stock trading frenzy as an indicator of market abuse and potentially systemic concern, both on its own merits and for what it has demonstrated about the fragility and susceptibility to manipulation of the U.S. capital markets.

For example, under the leadership of Chairwoman Maxine Waters (D-CA), the House Committee on Financial Services held a series of three hearings to examine market volatility.[46] Over the course of the hearings, the House Financial Services Committee heard from Vlad Tenev, the CEO of Robinhood, Kenneth C. Griffin, the CEO of both Citadel LLC, the hedge fund, and Citadel Securities, the HFT, Gary Gensler, the Chairman of the SEC, prominent academics, representatives of public interest groups (including one of the authors of this Article[47]), and others. For its part, the SEC staff undertook a review of the incident, culminating in a staff report released on October 14, 2021.[48]

The GameStop saga also came at a fateful time for trading platforms, especially Robinhood. Robinhood has experienced explosive growth since the start of the COVID-19 pandemic.[49] That growth has been

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participants have been able to depend on NYSE's infrastructure and well-established volatility controls. In short, the markets worked.").

46. *See Game Stopped? Who Wins When Short Sellers, Social Media, and Retail Investors Collide: Hearing Before the H. Comm. on Fin. Servs.*, 117th Cong. (2021), https://financialservices.house.gov/events/eventsingle.aspx?EventID=407107 [https://perma.cc/MM7V-GEEU]; *Game Stopped? Who Wins When Short Sellers, Social Media, and Retail Investors Collide, Part II: Hearing Before the H. Comm. on Fin. Servs.*, 117th Cong. (2021), https://financialservices.house.gov/events/eventsingle.aspx?EventID=406268 [https://perma.cc/3GVB-9SV6]; *Game Stopped? Who Wins When Short Sellers, Social Media, and Retail Investors Collide, Part III: Hearing Before the H. Comm. on Fin. Servs.*, 117th Cong. (2021), https://financialservices.house.gov/events/eventsingle.aspx?EventID=407748 [https://perma.cc/EYH5-4QX2].

47. For Mr. Kelleher's full written testimony, see *Game Stopped? Who Wins and Loses When Short Sellers, Social Media, and Retail Investors Collide, Part II: Hearing Before the H. Comm. on Fin. Servs.*, 117th Cong. (2021) [hereinafter Kelleher Testimony], https://bettermarkets.org/sites/default/files/Kelleher%20HFSC%20Testimony%20GameStop%20Hearing%203-17-2021%20FINAL%20%282%29.pdf [https://perma.cc/J3VM-X7FT] (testimony of Dennis M. Kelleher). For a written copy of Mr. Kelleher's opening statement, see *Game Stopped? Who Wins and Loses When Short Sellers, Social Media, and Retail Investors Collide, Part II: Hearing Before the H. Comm. on Fin. Servs.*, 117th Cong. (2021), https://bettermarkets.org/sites/default/files/Testimony%20HFSC%20GameStop%20Opening%20Stmt%203-17-2021_0.pdf [https://perma.cc/SJP8-AT9T] (opening statement of Dennis M. Kelleher). A video of Mr. Kelleher's testimony is also available. *See* Better Markets, *Key Moments: Dennis Kelleher Testifies at the HFSC's Part II of the GameStop Hearing,* YOUTUBE (Mar. 18, 2021), https://www.youtube.com/watch?v=chogYSWCA24 [https://perma.cc/3BQ5-PF5W].

48. *See* SEC STAFF GAMESTOP REPORT, *supra* note 25.

49. Annie Massa & Sara Ponczek, *Robinhood's Addictive App Made Trading a Pandemic Pastime*, BLOOMBERG BUSINESSWEEK (Oct. 22, 2020, 4:12 PM),

accompanied by increased regulatory scrutiny, which has resulted (so far[50]) in, first, a December 2020 settled enforcement action with the SEC involving allegations that Robinhood made material misrepresentations and omissions to its customers about its execution quality and order routing practices, resulting in a $65 million fine.[51] Second, an administrative lawsuit filed in April 2021 by the Massachusetts secretary of state, alleging that Robinhood engages in a number of harmful and illegal practices, and seeking to bar it from operating in Massachusetts.[52] And finally, a settled June 2021 enforcement action for a record-breaking amount of $70 million with the FINRA, involving allegations of serious deficiencies that caused "widespread and significant harm" to its customers.[53]

The investigations and actions against Robinhood and into the GameStop frenzy have confirmed that there are serious weaknesses and deficiencies in the structure and regulation of the U.S. capital markets.[54] Many of these are decades old, while others have arisen more recently, spurred by technological and other changes. Whatever their origin or nature, these weaknesses and deficiencies pose enormous risks, both to retail investors and to the market as a whole. For example, as the Federal Reserve explained in its November 2021 Financial Stability Report, the meme stock episode of January 2021, while it "did not leave a lasting imprint," may portend "[a] potentially destabilizing outcome" in regard to the stability of the financial system.[55]

Old market problems and new threats have intersected with the rise of low- or no-commission trading platforms, most prominently Robinhood, and the use of so-called gamification features and other DEPs.[56] DEPs, which are common features in many non-financial apps,

https://www.bloomberg.com/news/features/2020-10-22/how-robinhood-s-addictive-app-made-trading-a-covid-pandemic-pastime [https://perma.cc/EU7X-BPW9].

50. There are still a number of investigations ongoing. *See, e.g.,* Schuetz, *supra* note 34 ("GameStop said it received a subpoena in August from the [SEC] . . . .").

51. Robinhood Fin., LLC, Securities Act Release No. 10906, Exchange Act Release No. 90694 at 7 (Dec. 17, 2020) (noting that Robinhood had "unusually high [PFOF] rates").

52. Administrative Complaint, *supra* note 17.

53. FINRA LETTER, *supra* note 16 ($57 million fine and $13 million in restitution).

54. For a brief overview of some of the many market structure issues present in the U.S. securities markets, and our perspective on them, see *Better Markets' Market Structure Advocacy Through the Years*, BETTER MARKETS BLOG (Mar. 15, 2021), https://bettermarkets.org/newsroom/better-markets-market-structure-advocacy-through-years/ [https://perma.cc/FR4B-DDW4].

55. FED. RSRV. FIN. STABILITY REP. 21 (Nov. 2021), https://www.federalreserve.gov/publications/files/financial-stability-report-20211108.pdf [https://perma.cc/RV8F-EXKG].

56. "Gamification," "game-like features," and "DEPs" could all be used interchangeably to describe the various features of trading platforms (and many other types of apps) that are

can be put to potentially more constructive uses (for example, to encourage customers to be more physically active) or potentially more harmful uses (for example, to encourage customers to spend endless hours scrolling through Facebook or Instagram). This same principle applies to the use of DEPs on investment and other financial platforms—they can encourage prudent financial decision making that benefits customers or rash decision making that harms customers but benefits the platforms.[57]

Unfortunately, led by Robinhood, the way many trading platforms use DEPs appears often to represent a new and improved way to exploit retail investors and separate them from their money, and that exploitation is spreading.[58] Likely seeing how effectively Robinhood has been able to use DEPs to juice trading and increase revenue,[59] some of its more traditional competitors "say Robinhood's app design has put pressure on them to build similar products in an arms race for young customers."[60] At the same time, a bevy of new Robinhood competitors has sprung up that also seeks to use DEPs (including some, such as social networking

aimed at getting users to stay on and engage with the platform for hours on end. Throughout this Article, we will refer to these features as DEPs, both to maintain consistency with the SEC, and also because many features, such as how platforms package and deliver market news to customers, *see infra* Section III.C., may not seem as obviously drawn from games as other features (such as falling confetti to celebrate trades), but which are as perniciously effective at getting customers to engage in thoughtless and risky trading. *See* Nicole Casperson, *Robinhood Drops the Confetti, but Advisers Aren't Convinced*, INVESTMENTNEWS (Apr. 6, 2021), https://www.investmentnews.com/robinhood-drops-the-confetti-but-advisers-arent-convinced-204828 [https://perma.cc/P9B7-A4CU] ("Robinhood's minor redesign [eliminating confetti graphics] is 'placing a Band-Aid over its troubles,' said Tricia Rosen, owner of RIA Access Financial Planning. 'There are much more significant problems with investors using the Robinhood app than receiving a burst of confetti when they place a trade for the first time.'").

57. *See, e.g.,* Misyrlena Egkolfopoulou et al.,, *How Robinhood Made Trading Easy—and Maybe Even Too Hard to Resist*, BLOOMBERG WEALTH (April 21, 2021, 3:01 PM), https://www.bloomberg.com/features/2021-robinhood-stock-trading-design/?sref=mQvUqJZj [https://perma.cc/C956-PDLR].

58. *See Game Stopped? Who Wins and Loses When Short Sellers, Social Media, and Retail Investors Collide, Part II: Hearing Before the H. Comm. on Fin. Servs.*, 117th Cong. 3 (2021) [hereinafter Professor Bogan Testimony], https://docs.house.gov/meetings/BA/BA00/20210317/111355/HHRG-117-BA00-Wstate-BoganV-20210317.pdf [https://perma.cc/4N2Q-MWMQ] (testimony of Professor Vicki L. Bogan) (explaining that platforms "that engage in gamification . . . exploit natural human tendencies for achievement and competition by employing app designs that provide cues, pushes, and rewards to motivate individuals to make more trades, and encourage repetitive use of their trading app").

59. According to an analysis, Robinhood's ratio of order routing revenue to average account value is $40,683, compared to just $2,079 for TD Ameritrade and $891 for E-Trade. Geron, *supra* note 21.

60. Madison Darbyshire, *Brokerages Have Snared Legions of Day Traders but Are the Apps Too Easy To Use*, FIN. TIMES (Oct. 28, 2021) [hereinafter *Brokerages Have Snared Legions of Day Traders*], https://www.ft.com/content/f95ceb63-c5f7-4687-9c21-c664e66cc200 [https://perma.cc/HF6Z-JW5Y].

features, that even Robinhood does not use) to induce customers to engage in thoughtless and risky trading.[61] The rise of trading platforms that make predatory use of DEPs[62] is also closely related to the decades-old practice of brokers selling their clients' orders, otherwise known as "payment for order flow" (PFOF).

II. PAYMENT FOR ORDER FLOW: THE CONFLICTS OF INTEREST THAT HARM INVESTORS, FRAGMENT MARKETS, AND FUEL PREDATORY DEPS

Understanding the proliferation of low- or no-commission trading platforms like Robinhood requires first understanding the practice of PFOF, in which HFTs and so-called market-makers like Citadel Securities pay brokers for the right to execute those brokers' retail clients' orders. HFTs and market-makers serve an intermediating function by standing ready to both buy and sell securities, eliminating the need for those who want to sell stock to find a willing buyer, and vice versa. However, it is important to note that while HFTs like Citadel Securities functionally act as market-makers, they are not required to register as market-makers, and accordingly largely do not have the obligations that registered, traditional market-makers have, including providing a continuous two-sided market, serving as the buyer or seller of last resort when there is market volatility, and to avoid contributing to market volatility.[63] Instead, "HFT firms have largely displaced traditional market makers, reaping the profits without

61. Annie Massa & Akayla Gardner, *Robinhood Wannabes Dare Regulators with Embrace of Games and Prizes*, BLOOMBERG (Oct. 15, 2021, 2:03 PM), https://www.bloomberg.com/news/articles/2021-10-15/robinhood-wannabes-dare-regulators-with-embrace-of-games-prizes?sref=mtQ4hc2k [https://perma.cc/T4LJ-2Z7Z].

62. We use the phrase "predatory use of DEPs" or "predatory DEPs" herein to describe DEPs that are deployed with the apparent purpose of pushing customers to repeatedly take actions that are lucrative for the platform while potentially or likely to result in harm to its customers, as distinguished from DEPs of various sorts that are not predatory in design, intent, or effect. We use the term "gamification" to describe the use of DEPs that introduce game-like elements (such as leaderboards or tasks) to encourage customers to use the platform more. *See* Professor Bogan Testimony, *supra* note 58, at 3.

63. Ian Poirier, *High-Frequency Trading and the Flash Crash: Structural Weaknesses in the Securities Markets and Proposed Regulatory Responses*, 8 HASTINGS BUS. L.J. 445, 456 (2012). Some HFT firms such as Citadel and Virtu are designated market-makers (DMMs) on exchanges with respect to given securities, and accordingly assume the regulatory obligations of a market-maker with respect to those securities. *See The NYSE Market Model*, NYSE, https://www.nyse.com/market-model [https://perma.cc/8RMH-XVPR] ("DMMs have obligations to maintain fair and orderly markets for their assigned securities."). However, HFTs would not have such market-maker obligations with respect to other securities in which they are functionally acting as market-makers in their "internalizer" capacity. According to its website, Citadel is a DMM with respect to eleven issuers. *Your Designated Market Maker*, CITADEL SECS., https://www.citadelsecurities.com/dmm/ [https://perma.cc/GEF7-TPQ3].

taking the responsibilities of the traditional position."[64]

Although this description is a bit simplistic, HFTs, like more traditional market-makers, make those profits by capturing the spread—i.e., the difference between the price they are willing to buy a security for and the price at which they are willing to sell that security, for each trade they execute. HFT firms like Citadel Securities pay for brokers' order flow because the more orders they execute, the more profit they can earn by capturing the spread on each transaction. In this Section, we briefly explore the origins of PFOF, its impact on retail investors and the markets, and how it has led to the rise of trading platforms like Robinhood that make heavy use of DEPs to induce customers to trade more frequently, which generate more profits for the Robinhoods and Citadel Securities of the world.

A. *Bernie Madoff Pioneers PFOF: Cherry-Picking Uninformed Retail Order Flow to Maximize Profits*

In the 1980s, regulatory changes to the structure of the securities markets, intended to break the power that big exchanges, predominantly the New York Stock Exchange (NYSE), had over stock trading, made it feasible for smaller players to trade NYSE-listed securities at prices at least as favorable as those displayed by the NYSE.[65] Bernie Madoff (yes, the convicted Ponzi scheming Bernie Madoff[66]), then a market-maker at the forefront of technological innovation in the securities markets, recognized that these regulatory changes presented a profit opportunity: if he could consistently execute trades at prices no worse than displayed by the NYSE, his firm could assure itself a tidy profit if it was able to convince brokers to route those trades (i.e., order flow) to him. To convince brokers to route to his firm instead of the NYSE, Madoff began *paying* brokers a penny per share to send him their orders, an enticing proposition given that the NYSE *charged* about three cents a share to execute orders.[67]

However, Madoff knew he would not make a profit if he accepted just any orders. For example, if a significant portion of the orders he executed came from investors with informed views about the direction of

64. Poirier, *supra* note 63, at 456–57.

65. Robert H. Battalio & Tim Loughran, *Does Payment for Order Flow to Your Broker Help or Hurt You*, 80 J. BUS. ETHICS 37, 37–38 (2007).

66. Editorial Staff, *Before the Fall*, TRADERS (Mar. 10, 2009), https://www.tradersmagazine.com/departments/brokerage/before-the-fall/ [https://perma.cc/6F8K-4LJH] (explaining that before Madoff's "ignominious end" Madoff "was considered a leader in the stock trading business who almost single-handedly created the modern-day Third Market for retail orders by attracting order flow destined for the New York Stock Exchange").

67. Battalio & Loughran, *supra* note 65, at 38–39.

the market, it would increase Madoff's adverse selection risk, because those investors would be buying (or selling) from Madoff at a price lower (or higher) than the true market value of the stock, which they would have a better view of than Madoff.[68] Accordingly, Madoff only paid for small orders of less than five thousand shares, "reasoning that anyone with value-relevant information would trade more shares."[69]

In fact, Madoff went even further: if a particular broker sent him orders that proved consistently unprofitable, Madoff would no longer accept orders from that broker.[70] In other words, Madoff was specifically targeting the orders of retail investors, which he believed he could profit from easily because those orders would not represent a view on the direction of the market as informed as the view he had. Thus, by explicitly paying brokers cash to send him their retail orders, Madoff had demonstrated that he could extract excess profits from less informed retail traders and thus pioneered the practice of PFOF for retail orders.

The business model of specifically seeking out less informed order flow to purchase from brokers because it is easier, if not guaranteed, to profit from persists to this day. For example, it has been reported that Robinhood in 2020 commanded a premium for its order flow, receiving up to fifteen times more than other retail brokers like Charles Schwab, "because the trading firms believed they could score the easiest profits from Robinhood customers."[71] As Hannah Levintova put it:

> Flash traders [HFT firms like Citadel and Virtu] are willing to pay brokers a premium for the right to execute what the industry calls "dumb money" trades[72]—orders from everyman investors who don't know as much about the stocks they're trading as Wall Street

68. See *id.* at 39, especially for a more detailed and technical explanation of how this happens.

69. *Id.*

70. *Id.*

71. Nathaniel Popper, *Robinhood Has Lured Young Traders, Sometimes with Devastating Results*, N.Y. TIMES (Jul. 8, 2020), https://www.nytimes.com/2020/07/08/technology/robinhood-risky-trading.html [https://perma.cc/255X-GWPB]; *see also* Robinhood Fin., LLC, Securities Act Release No. 10906, Exchange Act Release No. 90694 at 7 (Dec. 17, 2020) (noting that Robinhood had "unusually high [PFOF] rates").

72. Many people appropriately take offense to the labeling of retail traders as "dumb money," but that misses the point correctly captured here: it is the financial industry professionals (with their practically unlimited resources, maximum real-time market information from being at the intersection of multiple market flows, and cutting-edge technology) who refer to retail traders as "dumb money." That's because they have decades of quantitative validation (since Madoff first perfected this cherry-picking business model in the 1990s) proving that they maximize their profits from executing retail order flow. That does not mean that there are not also lots of smart retail traders, lots of retail traders doing robust due diligence, and many who apparently make money—at least pre-tax—in the short term.

> professionals. That's because, armed with better information, complex algorithms, and access to private salesrooms, market makers know they'll usually be able to arrange a better price than the one the investor agreed to buy or sell at. They then split the difference, paying some to Robinhood as PFOF, while keeping the rest for themselves and usually offering a sliver of the better price back to the customer in "price improvement."[73]

B. *PFOF Spreads, but the Conflicts of Interests and Its Deleterious Impact on the Markets Are Clear*

Madoff's idea for taking advantage of regulatory changes to extract more revenue quickly caught on and spread.[74] As it spread, however, the SEC and others began to raise serious concerns about the practice, and its effect on retail investors and the markets.

1. PFOF Poses a Clear Conflict of Interest Between Brokers' Best Execution Obligations and Their Desire to Maximize Profits

One of these concerns is that PFOF represents an obvious conflict of interest between the broker that accepts it (especially if it is a significant percentage of its profits) and its clients. Brokers have a longstanding obligation to seek best execution of client orders.[75] However, when brokers are offered payments for routing order flow to particular firms (which have all the hallmarks of kickbacks or legalized bribery), they face a temptation to prioritize their own pecuniary interests over their clients' by routing orders to the highest bidder rather than where they will get the best execution.[76] Madoff then, and PFOF defenders now, make a variety of arguments in response to the obvious conflict of interest PFOF fuels between brokers and their clients. Those arguments do not withstand scrutiny.[77]

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73. Levintova, *supra* note 8 (footnote added).

74. *See id.* Also, as Professors Battalio and Loughran pointed out when discussing the origins of PFOF, the NYSE's competitors could have attracted order flow away from the NYSE by posting "more aggressive bid and ask prices (which would assist in the price discovery process for financial markets)," but instead chose to offer inducements to brokers to attract order flow. Battalio & Loughran, *supra* note 65, at 38.

75. *See* Newton v. Merrill, Lynch, Pierce, Fenner & Smith, Inc., 135 F.3d 266, 270 (3d Cir. 1998) ("The duty of best execution, which predates the federal securities laws, has its roots in the common law agency obligations of undivided loyalty and reasonable care that an agent owes to his principal.").

76. *See The Perils of Payment for Order Flow,* 107 HARV. L. REV. 1675, 1686 (1994).

77. In addition to many of those arguments not withstanding scrutiny, many of those making the pro-PFOF arguments do not withstand scrutiny due to conflicts of interest like taking money from the PFOF industry. See, e.g., *Bought and Paid For*, THEMIS TRADING LLC: BLOG (Dec. 7, 2021), https://blog.themistrading.com/2021/12/bought-and-paid-for/ [https://perma.cc/E929-NJKH] (discussing a new academic paper supporting PFOF that was

First, PFOF defenders argue that rather than introducing a conflict of interest that threatens poorer execution for retail investors, PFOF actually enables them to provide better execution via what they call "price improvement" for retail investors.[78] However, this claim is dubious, at best, because such claims are benchmarked against the "national best bid and offer" (NBBO), which, despite its name, is often *not* the best bid or offer available to investors.[79] For one, the NBBO is disseminated through a public data feed that consolidates a subset of executable orders from public U.S. stock exchanges, such as the NYSE. But a significant percentage of trading volume, often approaching half or more, is handled off the public exchanges.[80] Because trades that happen off-exchange are excluded from the NBBO, a significant portion of trading activity is excluded from the NBBO, undermining its use as a benchmark for "price improvement."[81]

Moreover, the NBBO excludes so-called "odd-lot" orders, meaning an order that is not a "round lot," which typically means an order for one hundred shares.[82] This too has a significant impact on the calculation of

reported in Axios, but where "[t]he authors have a financial relationship with Robinhood" and then showing why the arguments lack merit).

78. In fact, one very recent "study" claimed that "[d]uring 2020–2021, Robinhood customers benefited from more than $8 billion in price improvement compared to the national best bid and offer prices." *See* S.P. Kothari et. al, *Commission Savings and Execution Quality for Retail Trades* (Dec. 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3976300 [https://perma.cc/Q5ZU-HV97]. However, as a blog post by Themis Trading points out, this study was bought and paid for by none other than Robinhood itself, and so unsurprisingly advances the flawed argument that Robinhood customers benefit from Robinhood's acceptance of PFOF because they claim "price improvement" relative to the NBBO, even though the NBBO is a severely flawed benchmark for considering actual price improvement. *Bought and Paid For*, *supra* note 77

79. *See Bought and Paid For*, *supra* note 77; *see also* BETTER MARKETS, FACT SHEET: *PAYMENT FOR ORDER FLOW*: HOW WALL STREET COSTS MAIN STREET INVESTORS BILLIONS OF DOLLARS THROUGH KICKBACKS AND PREFERENTIAL ROUTING OF CUSTOMER ORDERS 8 (2021) [hereinafter FACT SHEET: *PAYMENT FOR ORDER FLOW*], https://bettermarkets.org/sites/default/files/documents/Better_Markets_Payment_for_Order_Flow_Long_02-21-2021.pdf [https://perma.cc/5GB7-6ETT].

80. *See* Alexander Osipovich, *GameStop Mania Highlights Shift to Dark Trading*, WALL ST. J. (Feb. 12, 2021), https://www.wsj.com/articles/gamestop-mania-highlights-shift-to-dark-trading-11613125980 [https://perma.cc/7FKG-5VPZ].

81. *See* SEC STAFF GAMESTOP REPORT, *supra* note 25, at 14 (explaining that the exclusion of "off-exchange liquidity" from the calculation of the NBBO demonstrates "the limitations of relying on the NBBO as the reference point for measuring retail execution quality").

82. *See* Stanislav Dolgopolov, *Off-Exchange Market Makers and Their Best Execution Obligations: An Evolving Mixture of Market Reform, Regulatory Enforcement, and Litigation*, 17 N.Y.U. J.L. & BUS. 477, 503 (2021). While "round lot" usually refers to orders for one hundred shares, the SEC recently adopted revisions to its rules to set forth smaller round lots in certain equity categories. Market Data Infrastructure, Exchange Act Release No. 34–90610, 86 Fed. Reg. 18,596 (June 8, 2021).

the NBBO, and accordingly on claims of price improvement benchmarked to the NBBO. There has been a multi-year increasing trend in odd-lot trading across markets. Over the course of 2021, the odd-lot rate—the total number of odd-lot equity trades relative to the total number of equity trades—has consistently been above fifty percent, typically closer to sixty percent, meaning more than half of trades on executable orders are not reflected in the NBBO.[83] For stocks priced above $500 per share, odd-lot orders have been superior to the NBBO as often as seventy-five percent of trading days.[84] One recent study estimated that these, and other issues with the NBBO, mean that claims of price improvement benchmarked to the NBBO are overestimated by at least eight percent.[85]

Another important point when considering claims of price improvement is that many active DMMs on the exchanges also are very active HFTs capturing retail order flow off-exchange.[86] This means that claims of price improvement achieved through internalization are measured against a benchmark that can be materially influenced by some of the same firms making markets on the exchanges. This may incentivize HFTs to quote wider spreads in the public securities markets from time to time (in their "exchange" market-making capacity) that can be exploited to capture as much of that spread as possible in their private, internalized HFT "market making" capacity.[87] In any event, HFTs that are also DMMs

83. U.S. Sec. & Exch. Comm'n, *U.S. Exchanges Odd Lot Rate (%)*, https://www.sec.gov/marketstructure/datavis/ma_exchange_oddlotrate.html#.YcywsxPMKL8 [https://perma.cc/Q863-DBKF].

84. *See* Brett Redfearn, Dir., Div. of Trading & Mkts., U.S. Sec. & Exch. Comm'n, Equity Market Structure 2019: Looking Back & Moving Forward, Remarks at Gabelli School of Business, Fordham University, New York, New York (Mar. 8, 2019), https://www.sec.gov/news/speech/clayton-redfearn-equity-market-structure-2019 [https://perma.cc/JR7Y-KSSU].

85. *See* HITESH MITTAL & KATHRYN BERKOW, THE GOOD, THE BAD, & THE UGLY OF PAYMENT FOR ORDER FLOW 8 (2021), https://f.hubspotusercontent10.net/hubfs/4982966/BestEx%20Research%20PFOF%2020210503.pdf [https://perma.cc/PUK8-4Z2S].

86. *See* Stanislav Dolgopolov, *Regulating Merchants of Liquidity: Market Making from Crowded Floors to High-Frequency Trading*, 18 U. PA. J. BUS. L. 651, 659 n.29 (2016) (noting that several HFT firms, including Citadel Securities, GTS, and Virtu, are also designated market makers); *see also* Bill Alpert, *2 Charts That Show Why Robinhood Cares So Much About Payment for Order Flow*, BARRON'S (Sept. 1, 2021, 8:02 AM), https://www.barrons.com/articles/robinhood-payment-for-order-flow-51630451893 [https://perma.cc/BN42-2JDB] (noting that off-exchange execution by firms like Citadel Securities and Virtu "have taken an increasing share of retail trading volume from exchanges like the NYSE" resulting in "[t]hose off-exchange operators now process[ing] more than half of all retail market orders").

87. There is some empirical evidence that this is exactly what is occurring. *See generally* GREGORY W. EATON ET AL., RETAIL TRADER SOPHISTICATION AND STOCK MARKET QUALITY: EVIDENCE FROM BROKERAGE OUTAGES (2021), https://www.paris-december.eu/sites/default/files/publications/2021/eaton_2021.pdf [https://perma.cc/R932-

on exchanges, "by virtue of being sole participant trading against retail order flow, have a wealth of private information giving them a significant edge over other market makers on public exchanges," which can increase concentration and further distort and harm markets.[88]

Congressman Jim Hines from Connecticut put it succinctly: "Yes, when a broker uses [PFOF], you do see price improvement, but you see price improvement off a really lousy price."[89] And, that "really lousy price" is often artificially created for the purpose of widening a spread to maximize the dealers' profits at the expense of the investor, who is then misleadingly told she is getting a great deal via "price improvement."

Second, PFOF defenders argue that PFOF enables low-commission and no-commission trading. While this is true inasmuch as the kickbacks paid to brokers can enable them to charge low, or even no, commissions, and still profitably operate, low-commission and so-called "commission-free trading" are not the same as low-cost or cost-free trading. What PFOF enables is *not* "free trading," no matter what Robinhood's CEO or others say or how many times they say it, but rather hidden cost trading.[90] Indeed, the practical effect of PFOF-enabled no-commission trading is that it allows brokers to take what would be an upfront, fixed, and fully disclosed cost, and converts it into "costs [that] are not transparent to the retail investor."[91]

The PFOF conflicts of interests between brokers and their clients, notwithstanding the claims of its defenders, is illustrated starkly by a December 2020 SEC enforcement action against none other than

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88. Mittal & Berkow, *supra* note 85, at 14.

89. Paul Kiernan, *Wall Street Pushes Back as SEC Targets Business Practice That Generates Billions*, WALL ST. J. (Nov. 9, 2021) [hereinafter *Wall Street Pushes Back*], https://www.wsj.com/articles/wall-street-pushes-back-as-sec-targets-business-practice-that-generates-billions-11636376401 [https://perma.cc/CU4Y-U5VN]. One broker, Public, that once accepted PFOF, but stopped in February 2021, analyzed how that affected its execution quality, determined that it "has been able to achieve excellent price execution for our members without relying on market makers or PFOF" and concluded that its analysis "strongly suggests that Public delivers better execution quality on average to customers than our peer firms that accept PFOF from market makers." Stephen Sikes, *Delivering on Price Execution Without PFOF*, THE PUB. BLOG (Dec. 2, 2021), https://medium.com/the-public-blog/delivering-on-price-execution-without-pfof-27f0e6098a2f [https://perma.cc/KHH4-URS9].

90. *See* Mother Jones, *supra* note 20 (quoting Robinhood CEO claiming "[a]ll of our trades are free"); *see also* Helenowski & Levintova, *supra* note 5. It is remarkable how often people who hear "commission-free trading" immediately refer to it as "free trading," including those experienced in and familiar with financial markets, such as those who are on shows on CNBC. *See, e.g.*, CNBC Television, *Retail Boom and Bust? SEC Scrutiny into Robinhood*, YOUTUBE (July 7, 2021), https://www.youtube.com/watch?v=CwLcseGURso [https://perma.cc/VD47-ETPA].

91. Professor Bogan Testimony, *supra* note 58, at 2.

Robinhood.[92] According to the SEC, Robinhood—among other things—misled its customers about its receipt of PFOF.[93] While some disclosures such as trade confirmations and customer agreements mentioned that Robinhood "may" receive PFOF, its more readily accessible (and likely more widely read) FAQs about its revenue sources omitted any mention of PFOF, even though PFOF was (and still is) Robinhood's biggest source of revenue. Concealing its receipt of PFOF was an intentional decision by Robinhood "because it believed that [PFOF] might be viewed as controversial by customers."[94]

Additionally, Robinhood lied[95] to its customers about execution quality while knowingly giving its customers inferior execution. Beginning in 2018, in response to media reports about poor execution quality, Robinhood began claiming on its website that it matched or beat the execution quality of its competitors. This was even though Robinhood had been generally aware there was a tradeoff between the size of PFOF payments and execution quality—the larger the PFOF payment, the worse the execution quality—and still demanded "unusually high" PFOF payments. In fact, by 2018, when it began claiming its execution quality equaled or matched its competitors', Robinhood had begun to undertake an analysis of its order routing practices which confirmed that its

92. Robinhood Fin., LLC, Securities Act Release No. 10906, Exchange Act Release No. 90694 (Dec. 17, 2020). Robinhood neither admitted nor denied the allegations.

93. *Id.* at 7–9. Author Hannah Levintova observed that "[t]he same year that Robinhood launched, financial journalist Michael Lewis published *Flash Boys*—an exposé of high-frequency trading firms that shed light on how [PFOF] deals were negotiated by Wall Street," the "conflicts of interest," and "how trading firms' order flow profits [come] at the expense of everyday investors." After noting that the book "touched off a firestorm on Wall Street and in Washington," she detailed how Robinhood then concealed its receipt of PFOF from the public and customers. Levintova, *supra* note 8.

94. Robinhood Fin., LLC, Securities Act Release No. 10906, Exchange Act Release No. 90694 at 2 (Dec. 17, 2020). The use of "controversial" here is a flag that one of the biggest benefits of settling with prosecutors and regulators like the SEC is that the settling party gets to negotiate not just the penalty and the violations, but also the very language of the documents announcing the settlement. Of all the things customers might think about Robinhood truthfully disclosing that it gets most of its revenue from HFT firms buying their orders, "controversial" would seem pretty low on the list. One can presume that Robinhood correctly believed that its customers would see this conflicted financial arrangement as a red warning flag, which is why they presumably chose to conceal it.

95. It should be noted that—considering the facts stated in the order, notes 86–92—it is difficult to understand how only the company was charged and then only with disclosure violations under Sections 17(a)(2) and 17(a)(3). The facts appear to clearly detail multiple examples of Robinhood and several of its officers and employees engaging in knowing fraudulent conduct which would appear to have violated Section 10(b) and other provisions of the Exchange Act and the rules promulgated thereunder. *See* Robinhood Fin., LLC, Securities Act Release No. 10906, Exchange Act Release No. 90694 (Dec. 17, 2020). Nonetheless, the SEC, in the waning days of the Trump administration, choose to settle this case charging only the company and only for disclosure and recordkeeping violations. *See id.* at 10–16.

execution quality "was worse in many respects" than its competitors'.[96] By March 2019, "a more extensive internal analysis . . . found [that] Robinhood's execution quality and price improvement metrics were *substantially worse* than other retail broker-dealers' in many respects."[97] Nevertheless, Robinhood both (1) maintained the order routing practices that were leading to substantially worse execution quality, and (2) continued to publicly and falsely insist that it matched or beat its competitors' execution quality.

These facts are damning. The SEC determined that Robinhood's order routing practices based on PFOF (enabled by Robinhood's fraudulent statements about them) cost its retail customers a lot more money than what they would have paid if they paid a commission:

> Between October 2016 and June 2019, certain Robinhood orders lost a total of approximately $34.1 million in price improvement compared to the price improvement they would have received had they been placed at competing retail broker-dealers, *even after netting the approximately $5 per-order commission costs* those broker-dealers were charging at the time.[98]

Do not miss the point of the SEC's statement here: Robinhood's customers lost more than $34 million due to undisclosed costs associated with their acceptance of PFOF "even after" assuming they had paid a "$5 per-order commission!" So much for either "free trading" or "commission-free trading." Moreover, even the amount of $34.1 million that was deceptively extracted from Robinhood's customers understates how much was ripped off because the analysis used to determine the amount included the NBBO for its view of "price improvement," which, as discussed above, is misleading and incomplete. The facts in the SEC's order make clear that Robinhood—the self-proclaimed democratizer of finance for the masses—willfully ripped off its retail customers so that it could pocket tens of millions of dollars in PFOF from the HFT firms like Citadel, to whom it sold its clients' order flow.

2. PFOF Has a Deleterious Impact on the Markets More Broadly

Another concern that has persisted since the advent of PFOF is its

96. Robinhood Fin., LLC, Securities Act Release No. 10906, Exchange Act Release No. 90694 at 2–3 (Dec. 17, 2020).

97. *Id.* (emphasis added).

98. *Id.* at 10 (emphasis added). A very recent study by the Dutch Authority for the Financial Markets comes to the same conclusion, finding that customer orders routed to venues that paid for those orders received price improvement, at most, eight percent of the time. Philip Stafford, *Retail Investors Lose Out When Brokers Sell Their Orders, Dutch Regulator Warns,* FIN. TIMES (Feb. 9, 2022), https://www.ft.com/content/4d5866b6-b723-416e-92b2-940d28d303a6 [https://perma.cc/CNK4-GLBG].

deleterious impact on the securities markets. Specifically, PFOF "threatens the structure of the equity-trading market" because PFOF-related "fragmentation may erode crucial aspects of a healthy capital market, such as liquidity, price discovery, pricing efficiency, public confidence, competitiveness, and price stability."[99] The primary reason for this is that orders routed to HFTs that make PFOF payments are by and large executed off public exchanges, either through internalization (i.e., executed against the HFT's own inventory) or after being routed to other non-public trading venues or so-called "alternative trading systems," also known as "ATSs" or "dark markets."[100]

This has a number of concerning second-order effects: it fragments liquidity, segments retail order flow such that a significant portion of retail orders are executed in dark markets, where they never have a chance to interact with orders on public exchanges, and creates competitive pressure for public exchanges to offer inducements to attract order flow, which further fragments the markets while creating additional conflicts of interest. Moreover, because it contributes to market fragmentation and reduces liquidity in the public markets, the spreads are wider and, therefore, the cost of capital for companies raising capital in the public markets is higher than it otherwise would be, undermining efficient capital formation and allocation.[101] In short, PFOF is both a cause and a consequence of the needless fragmentation of the U.S. securities markets, which ultimately undermines the strength of those markets.[102]

C. *How PFOF Is Fueling the Rise of Trading Platforms and Predatory DEPs*

The upshot is that PFOF poses real and significant risks, both to the retail investors whose orders HFTs purchase from brokers and the markets more broadly.[103] Nevertheless, the SEC chose not to meaningfully regulate PFOF, and its use has continued since Bernie Madoff originated the concept. The practice has become highly lucrative for brokers, who received an extraordinary $2.6 billion in total PFOF payments in 2020.[104]

99. *The Perils of Payment for Order Flow*, *supra* note 76 at 1680–81 (footnote omitted).

100. Kelleher Testimony, *supra* note 47, at 13–14.

101. *See* Cheryl Nichols, *The Importance of Selective Federal Preemption in the U.S. Securities Regulatory Framework: A Lesson from Canada, Our Neighbor to the North*, 10 CHAP. L. REV. 391, 395 (2006) ("Too much fragmentation will increase the cost of capital . . . .").

102. *Id.*

103. Ultimately, a fulsome, technical explanation of the pitfalls of PFOF is beyond the scope of this Article. However, for a more comprehensive explanation of the risks posed by PFOF, see FACT SHEET: *PAYMENT FOR ORDER FLOW*, *supra* note 79. *See also* Kelleher Testimony, *supra* note 47, at 9–21.

104. *See* Alexander Osipovich, *GameStop Mania Drives Scrutiny of Payments to Online*

It became even more lucrative in 2021, with the dozen largest brokers receiving thirty-three percent more in PFOF than they did in 2020, which amounted to $3.8 billion.[105] Presumably, executing those purchased orders is extraordinarily profitable for HFTs, who would not have paid $3.8 billion in 2021 for that order flow unless they knew they could make some significant amount above that PFOF "cost" from executing those orders.[106]

Beyond the concerns about conflicts of interest and how PFOF contributes to market fragmentation, the aspect of PFOF most directly relevant here is how PFOF has fueled the use of predatory DEPs by platforms like Robinhood. The most obvious way is that HFTs pay brokers more and more as brokers' route increased order flow to them.[107] Accordingly, a broker stands to make more money the more its clients trade.

In addition, the economics of PFOF also mean HFTs are willing to pay more for riskier trades. As explained above, one of the ways that HFTs like Citadel profit from executing retail orders is by collecting the spread between what they are willing to buy a stock for (their bid) and what they are willing to sell the stock for (their offer). Accordingly, the larger the spread, and the more profit available to the HFT, and the more they are willing to pay in PFOF to brokers. Spreads are higher in less liquid small cap stocks as well as riskier and more volatile products, such as options.[108] Therefore, HFTs pay more for those orders, meaning trades in those risky products—options in particular—are the most lucrative for trading platforms such as Robinhood.[109] Indeed, it has been reported that

Brokers, WALL ST. J. (Feb. 4, 2021), https://www.wsj.com/articles/gamestop-mania-drives-scrutiny-of-payments-to-online-brokers-11612434601 [https://perma.cc/6BF4-W3A4].

105. *See* Alexander Osipovich, *Payments to U.S. Brokers Surged Amid Meme-Stock and Options Boom,* WALL ST. J. (Feb. 1, 2022, 3:02 PM), https://www.wsj.com/articles/payments-to-u-s-brokers-surged-amid-meme-stock-and-options-boom-11643745771?st=5hubdn0wo6s2c5n&reflink=desktopwebshare_permalink [https://perma.cc/3UCL-VLA8].

106. *Id.* It is noteworthy that "Citadel Securities continued to be the biggest source of [PFOF]" at $1.5 billion in 2021 and that purchasing options trades ($2.5 billion in PFOF) were much more lucrative than equity trades ($1.3 billion in PFOF). *Id.*

107. SEC STAFF GAMESTOP REPORT, *supra* note 25, at 44 ("In addition, [PFOF] and the incentives it creates may cause broker-dealers to find novel ways to increase customer trading, including through the use of digital engagement practices.").

108. Kate Rooney & Maggie Fitzgerald, *Here's How Robinhood Is Raking in Record Cash on Customer Trades—Despite Making It Free*, CNBC (Aug. 14, 2020, 12:08 PM), https://www.cnbc.com/2020/08/13/how-robinhood-makes-money-on-customer-trades-despite-making-it-free.html [https://perma.cc/2ZHW-YH59].

109. *Id. See also* Osipovich, *supra* note 105. Options trading is significantly riskier than equities trading because, in addition to the extraordinary complexity of options products, they utilize leverage which can "amplify losses." FED. RSRV. FIN. STABILITY REP., *supra* note 55,

brokers received $2.2 billion in PFOF for options trades from June 2020 to June 2021, sixty percent higher than what they received for selling equities orders.[110] It was almost one hundred percent higher for the full year 2021.[111] All of this influences the way those platforms are marketed and designed.

III. TRADING PLATFORM DEPS AND THEIR EFFECT ON RETAIL INVESTORS

The new generation of no-commission trading platforms makes a significant portion of their revenue from PFOF and similar kickbacks.[112] For example, around seventy-seven percent of Robinhood's 2021 revenue came from PFOF and related kickbacks.[113] Therefore, because they are primarily concerned with maximizing profits, it can be expected that they will design their platforms to maximize PFOF, both by encouraging customers to trade more frequently, and by encouraging customers to trade in products like options that are more lucrative for platforms, even if highly risky and potentially ruinous for their customers.[114] That is particularly true now that it is a public company virtually required to show quarter-over-quarter and year-over-year revenue and profit growth to support its own stock price. And indeed, this is exactly what we see.

Robinhood has been "built on a Silicon Valley playbook of behavioral nudges and push notifications."[115] In turn, this "Silicon Valley playbook" is explicitly concerned with using a variety of DEPs "to

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at 21; *see also* Paul Kiernan, *Investors Are Using Robinhood, Other Platforms to Jump into Options Trades, Worrying U.S. Regulators*, WALL ST. J. (Dec. 8, 2021) [hereinafter *Investors Are Using Robinhood to Jump into Options Trades*], https://www.wsj.com/articles/investors-are-using-robinhood-other-platforms-to-jump-into-options-trades-worrying-u-s-regulators-11638886109 [https://perma.cc/E7R5-UGMW].

110. Alexander Osipovich & Gunjan Banerji, *How Robinhood Cashes In on the Options Boom*, WALL ST. J. (Oct. 31, 2021), https://www.wsj.com/articles/how-robinhood-cashes-in-on-the-options-boom-11635681600 [https://perma.cc/274F-2BD3].

111. *See also* Osipovich, *supra* note 105.

112. As Robinhood has explained in its securities filings, the kickbacks it receives for routing equities and options order flow is referred to as PFOF, while it refers to the kickbacks it receives for routing cryptocurrency orders as "Transaction Rebates." *See* ROBINHOOD MARKETS, INC. FORM 10-K 21 (2022), https://d18rn0p25nwr6d.cloudfront.net/CIK-0001783879/5da70128-0b89-456d-802a-047969b23ad9.pdf [https://perma.cc/QQ9H-762U]. However, the distinction is not relevant to this Article.

113. *Id.* at 92.

114. "Robinhood is really just an options trading racket. . . . [H]ardly anyone makes money in options except the folks who sell them to you. . . . Robinhood squeezes 9.5% out of option accounts for itself vs. 1.2% for crypto and 0.2% for stocks." Andy Kessler, *Can Robinhood Ride the Bull?*, WALL ST. J. (July 11, 2021), https://www.wsj.com/articles/can-robinhood-ride-the-bull-11626025309 [https://perma.cc/X8KK-FAAK].

115. Melanie Cherdack, *Trading in the Time of Covid: A Robinhood Bromance*, 28 PIABA BAR J. 159, 162 (2021).

motivate individuals to make more trades, and encourage repetitive use of their trading app."[116]

> Tech developers, like slot machine designers, strive to maximize the user's "time on device." They do so by designing habit-forming products—products that draw consciously on the same behavioral design strategies that the casino industry pioneered. The predictable result is that most tech users spend more time on device than they would like.[117]

The tools that trading platforms have borrowed from other apps to increase engagement and induce traders to engage in more frequent and riskier trading include:

- Celebrations for trading, including confetti or applause;
- Games and contests with leaderboards and prizes, ranging from free stock to cash and free subscriptions;
- Embedded social networking tools, including the ability to mimic the trading of others;
- Rewards for recruiting others to the app;
- Suggested trading strategies such as options and trading on margin;
- Check-the-box disclosures even on complex investment products such as options;
- Notifications and nudges, showing which stocks are up or down; supposedly "breaking" market news; lists of the most popular or top moving stocks; and the number of days since the customer's most recent trade; and
- Misleading claims that trading is "commission free."

While some of these DEPs (such as falling confetti and trading levels) are more obviously "game-like" than others (such as push notifications with "breaking" market news), they are all designed to the same end—capturing and dominating customers' attention and ensuring they spend as much time on the app as possible.[118]

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116. Professor Bogan Testimony, *supra* note 58, at 3.

117. Kyle Langvardt, *Regulating Habit-Forming Technology*, 88 FORDHAM L. REV. 129, 129 (2019); *see also* Matthew Knipfer, *Optimally Climbing the Robinhood Cash Management Waitlist,* MEDIUM (Nov. 5, 2019) ("This is not a broker anymore. It is a casino."), https://matthewknipfer.medium.com/optimally-climbing-the-robinhood-cash-management-waitlist-f94218764ea7 [https://perma.cc/JDN6-LDKM].

118. Of course, Robinhood and its many allies, mostly direct or indirect financial beneficiaries of Robinhood, reject these claims and, following the adage that offense is the best defense, its CEO penned an Op Ed in the Wall Street Journal claiming that criticism of its

Ultimately, this "Silicon Valley playbook" has been used to great effect by a variety of apps, from social media apps like Facebook and Twitter to actual games like Candy Crush, and even to apps designed to prevent childhood obesity.[119] Surely many people with a smart phone have had the experience of looking up from their phones only to find they have wasted an entire afternoon scrolling through Facebook, or spent nearly their entire lunch break mindlessly tapping the screen trying to beat their high score in Candy Crush.

Unlike Facebook or Candy Crush, however, customers of trading platforms are not just whiling away idle time. They are putting real money at risk. And Robinhood and other trading platforms are not just ordinary apps but are also broker-dealers and thus are subject to securities regulations at both the federal and state level. One of the primary concerns of securities regulation is, in turn, investor protection, in particular preventing unscrupulous actors from ripping off and exploiting investors.

In this Section, we will first explore some of the predatory ways platforms use DEPs that raise particular investor protection concerns because they are highly effective at luring customers into the platform and then getting those customers to trade more often and more thoughtlessly: (1) offers of free stock and other prizes, (2) the misleading marketing of "commission-free" trading, (3) how trading platforms provide information to customers, and (4) social networking features. We then explain how Robinhood's effective use of predatory DEPs works to get customers to constantly engage with the app for the purpose of inducing frequent and higher risk trading—to Robinhood's profit but its customers' detriment—what might be thought of as Robin Hood in reverse.

A. *Offers of Free Stock and Other "Prizes" for Opening Accounts and Repeatedly Engaging with the Platform Are a Predatory Use of DEPs*

One of the primary ways that trading platforms lure customers into downloading and beginning to use their apps is through offers of free stock and other prizes for signing up for the platforms and engaging in other activities. For example, Robinhood offers new customers a free stock upon opening an account,[120] but this offer serves multiple purposes for

predatory business practices is really nothing more than an attack on its retail customers. Vlad Tenev, *Robinhood Users Come Under Attack*, WALL ST. J. (Sept. 27, 2021, 6:25 ET), https://www.wsj.com/articles/robinhood-users-regulation-retail-investing-order-flow-access-to-capital-investing-11632776071 [https://perma.cc/WUW2-YTC7].

119. Langvardt, *supra* note 117, at 130–33; Nathan Jeffay, *To Fight Childhood Obesity, Israeli Docs Prescribe App That Gamifies Weight Loss*, TIMES ISR. (Oct. 13, 2021, 8:07 PM), https://www.timesofisrael.com/to-fight-childhood-obesity-israeli-docs-prescribe-app-that-gamifies-weight-loss/ [https://perma.cc/X6HT-MUZT].

120. *Open Account, Get Free Stock*, ROBINHOOD,

Robinhood:

> For the first-time user who downloads the app out of curiosity, Robinhood instantly begins to pull you into its world. After a less-than-five-minute sign-up process, there's an offer to get a free single share of stock. Until recently, a digital scratch-off ticket appeared, letting you reveal which stock you won. . . . It quickly gives the neophyte investor a stock to watch—a natural reason to keep paying attention to the app. Users can get notifications of the stock's movements.[121]

This offer of a free stock is less than it appears to be—Robinhood's advertising focuses on the possibility of receiving high-value, blue chip stocks like Microsoft, but Robinhood randomly picks which free stock to provide, meaning customers are actually much more likely to end up with a lower-value, less well-known stock.[122] Other trading platforms have copied this approach. Webull offers customers the chance to spin a wheel to win prizes such as Tesla stock, gift cards, or Apple iPads.[123] Another platform, SoFi, "dangles as much as $1,000 in free stocks, accompanied by an illustration of a pile of wrapped gifts."[124] Another, Stash Financial, has a "stock party" website "where users can fire off confetti while waiting for share giveaways."[125]

And in addition to its offer of a free, random stock for opening an account, Robinhood also offers its customers the ability to win other prizes for continuously engaging with its platform, including one promotion where customers could climb the waitlist for a to-be-launched cash management product, an FDIC-insured transaction account for Robinhood's brokerage customers that Robinhood indicated would offer

https://robinhood.com/us/en/support/articles/open-account-get-free-stock/ [https://perma.cc/T7D2-DPUN].

121. Egkolfopoulou et al., *supra* note 57; *see also* Paul Kiernan, *Regulators Scrutinize a Robinhood Ploy: Free Shares*, WALL ST. J. (Aug. 25, 2021, 7:30 AM), https://www.wsj.com/articles/regulators-scrutinize-a-robinhood-marketing-ploy-free-shares-11629891014 [https://perma.cc/XB75-EW2E].

122. John Bromels, *Robinhood's Free Stock Offer Isn't All It's Cracked Up to Be*, MOTLEY FOOL (Sept. 3, 2020, 9:46 AM), https://www.fool.com/investing/2020/09/03/robinhoods-free-stock-offer-isnt-all-its-cracked-u/ [https://perma.cc/Q2NY-CRTU].

123. Massa & Gardner, *supra* note 61.

124. *Id.*

125. *Id.*

a 2.05% annual percentage yield,[126] by clicking over and over again.[127] Unlike getting a "free" stock, Robinhood customers could tap on the app up to one thousand times per day every day, seven days a week to advance on the waitlist to get access to its cash management product when launched. This DEP resulted in a waitlist of more than 500,000 people![128]

These offers of random stocks and other random prizes not only entice customers to sign up for and continuously use the trading platform, but also condition customers to go to the app frequently and to the idea that using the platform for stock trading is like a game. For example, one Robinhood customer explained that he signed up for Robinhood to take advantage of the free stock promotion, which netted him a stock worth about five dollars. Before long, he went from having a that single stock that he did little with, to having ninety percent of his assets tied up in Robinhood, to the point that he found was having trouble purchasing groceries.[129]

B. *Heavy Marketing of So-Called "Commission-Free" Trading Is a Misleading DEP that Induces Customers to Sign Up for Trading Platforms and Trade More Frequently*

Another misleading DEP that raises serious investor protection concerns is the way that platforms bombard customers with misleading claims that they offer "commission-free" trading.[130] First, such claims are inherently misleading, as noted above in Section III.A. While platforms say "commission-free trades," customers almost certainly hear just "free trades,"[131] but "commission-free" is not the same as "cost-free," and, in

126. *Introducing Cash Management*, ROBINHOOD BLOG (Oct. 8, 2019), https://blog.robinhood.com/news/2019/10/8/introducing-cash-management [https://perma.cc/U9NB-W3R9]. As of December 10, 2021, Robinhood's cash management product offers a 0.30% APY. *What Is Cash Management*, ROBINHOOD, https://robinhood.com/us/en/support/articles/what-is-cash-management/ [https://perma.cc/E5KH-8ZPE].

127. Knipfer, *supra* note 117.

128. *Id.*

129. Massa & Gardner, *supra* note 61.

130. Marketing of "commission-free" trading may not intuitively seem like a DEP. However, marketing of "commission-free" trading fits well within the "Silicon Valley playbook of behavioral nudges and push notifications," Cherdack, *supra* note 115, at 162, because, as explained *infra* at notes 132–36, promises of "free" tend to act as a nudge that causes customers to change their behavior.

131. *See* Better Markets, *Dennis Kelleher Discussing PFOF on CNBC's Fast Money on July 7, 2021*, YOUTUBE (July 7, 2021), https://www.youtube.com/watch?v=nPWztxtr7-w&t=95s [https://perma.cc/V9Z8-UYTK]. When the CNBC host said that "what the retail investor gets is free trading," Mr. Kelleher responded by saying, among other things, "they don't get free trading. This is the problem. They brag about 'commission-free trading,' but retail traders hear 'free trading.'" *Id.* at 01:37.

fact, when a trading platform accepts PFOF, its customers are almost certainly paying a premium cost—a cost that, unlike the typical commission, is hidden and variable.[132]

Second, Robinhood leans heavily on the promise of "commission-free" trades in its marketing to prospective and current customers, which is one of the primary reasons that Robinhood has succeeded in signing up huge numbers of young and less-experienced traders and getting them to trade so frequently.[133] There is little doubt that the promise of "commission-free trading" which customers almost certainly hear as simply "free trading" results in more (not truly free) trades, meaning more extraction of revenue from customers. This is because offers of a "free" product leads to what behavioral economists have termed the "zero price effect" or "free effect," in which the offer of "a free good can have a much stronger lure than its actual value."[134] This can cause consumers to become "affective rather than rational decision makers, perhaps due to an emotional response or to a cognitive bias."[135] Ultimately, it appears that offers of "free" goods can act as a sort of "nudge," similar to news alerts and other types of DEPs, that can "can be used to change the conduct of consumers to prefer a product which does not advance their otherwise revealed preferences."[136]

Indeed, in this respect Robinhood's business model shares some similarities with so-called "freemium" games. These are games that purport to be free to download and play and are heavily marketed as such. However, once you start playing the game you find you actually have to pay for many of the features that make the game enjoyable.[137] Like

132. *Id*. *See also* Sheila Bair, *SEC Needs to Find a Way to Curb Payment for Order Flow*, FIN. TIMES (Sept. 8, 2021), https://www.ft.com/content/696a15e0-64f1-4800-af79-4d0a882df5b2 [https://perma.cc/XHZ9-AHX2] ("But it is far from clear whether PFOF actually reduces costs for retail investors, or simply makes their costs less transparent.").

133. *See* Siqi Wang, Note, *Consumers Beware: How Are Your Favorite "Free" Investment Apps Regulated?*, 19 DUKE L. & TECH. REV. 43, 49 (2021) ("Investment apps, including Robinhood and Acorns, have accumulated and drawn millions of users, mostly younger people, by marketing themselves with commission-free or low-cost investing and being mobile-friendly.").

134. Michal S. Gal & Daniel L. Rubinfeld, *The Hidden Costs of Free Goods: Implications for Antitrust Enforcement*, 80 ANTITRUST L.J. 521, 528 (2016).

135. *Id.* at 530.

136. *Id.* at 531.

137. *See* Shani Shisha, *Fairness, Copyright, and Video Games: Hate the Game, Not the Player*, 31 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 694, 713 (2021).

> The net effect is that consumers tend to believe that free-to-play games cost less than what they actually do. Consumers hence fail to fully account for the costs of in-game microtransactions. Behavioral economists have long recognized that consumers are beset by a battery of systemic failures, most notably myopia and over-optimism. Sellers respond to these shortcomings by (a) crafting extraordinarily complex contracts, and (b) relying on deferred cost schemes.

Robinhood, these types of games take advantage of the fact that when an item is marketed as "free" to use—i.e., with no upfront cost, consumers have a tendency to underestimate the potential true cost of using that item.[138] Except, at least in the case of freemium games, eventually the true cost is revealed to players. With so-called "commission-free trading" platforms like Robinhood, by contrast, the true cost is never revealed to customers.

C. *The So-Called "Education and Informational" Tools of Platforms like Robinhood Are Not "For Informational Purposes Only," but Are Also Designed to Induce Customers to Trade More*

Another less obviously game-like DEP put to predatory use by platforms like Robinhood, but one which is still critically important to getting customers to trade frequently and impulsively, is how those platforms purport to provide market news and information to customers. Robinhood's CEO Vladimir Tenev has tried hard to distinguish Robinhood's supposedly more "informational" features from its more obvious game-like features. For example, in his testimony before the House Financial Services Committee, Tenev claimed that although he is not "aware of any agreed upon definition of 'gamification,'" that Robinhood actually does not "offer rewards or levels to encourage more trading" and only "sparingly use[s] features like confetti animation to celebrate certain infrequent milestone events or a reward stock for signing up or referring friends,"[139] apparently what he wants to claim are the primary markers of gamification.[140] Instead, according to Tenev, Robinhood's design is intended to provide customers "with tools and information to learn about investing and keep tabs on their finances," including information on "price movements, upcoming earnings calls, and breaking news," which "are for informational purposes only."[141]

However, the way that Robinhood and platforms like it provide information to customers is actually one of the key tactics for inducing

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Id. at 714.

138. *See id.*

139. *See Game Stopped? Who Wins When Short Sellers, Social Media, and Retail Investors Collide: Hearing Before the H. Comm. on Fin. Servs.*, 117th Cong. 6 (2021) [hereinafter Tenev Testimony], https://docs.house.gov/meetings/BA/BA00/20210218/111207/HHRG-117-BA00-Wstate-TenevV-20210218.pdf [https://perma.cc/7BWW-CACC] (testimony of Vladimir Tenev).

140. Subsequent to the CEO's testimony, Robinhood stopped using confetti. Caitlin McCabe, *Robinhood to Remove Controversial Digital Confetti from Trading App*, WALL ST. J. (Mar. 31, 2021), https://www.wsj.com/articles/robinhood-to-remove-controversial-digital-confetti-from-trading-app-11617195612?mod=Searchresults_pos8&page=1 [https://perma.cc/ZK28-6X2K].

141. Tenev Testimony, *supra* note 139, at 6.

thoughtless and impulsive trading. As scholars Sayan Chaudhry and Chinmay Kulkarni, who study the interaction of software design and human behavior, put it, "making trading easier or increasing access to information backfires. Indeed, it encourages investors to trade more actively and perform even worse."[142] Platforms can make design choices that will decrease this tendency, for example, by ensuring that when providing market news, it is placed in appropriate context to be understood in line with broader market fundamentals.[143] However, Chaudhry and Kulkarni find that Robinhood's platform is designed to provide information in a way intended take advantage of well-known cognitive biases that can cause retail investors to make impulsive decisions.

For example, investor decisions can be unduly "biased by more vivid and memorable movements in stock prices."[144] A platform designed to counteract this tendency and encourage more deliberative trading would avoid featuring a list of stocks whose prices have moved the most.

By contrast Robinhood prominently features a top movers list.[145] These lists, and other features, inundate customers with a constant stream of selected market news prominently featured in such a way as to give the impression that the news, often relatively unremarkable, is significant and demands attention—if not urgent action. As the Massachusetts secretary of state put it in the state's complaint against Robinhood, this "is no different from a broker-dealer agent handing a list of securities to a customer, pretending to be surprised when the customer purchases securities from that list, and then proclaiming that he made no recommendations to the customer."[146]

Robinhood also appears to have designed its push notifications and "daily movers" list in a particularly insidious manner to unconsciously provoke increased trading by its customers:

> You might expect that Robinhood's interface would trumpet customers' wins, but the app is also crafted in a way that calls attention to losses. The app comes set up to send customers push notifications when their stocks move, no matter the direction. The company's up and down "Daily Movers" list stands out from similar features on other sites that put the gainers front and center. In a 2020 study, a group of business school professors found that this particular design choice drew Robinhood users to trade stocks on the list far more intensely than traders at other brokerages, who are drawn more to gainers. "We do find investors lose money in the whole process," says

142. Chaudhry & Kulkarni, *supra* note 24, at 779.
143. *See generally id.*
144. *Id.* at 781.
145. *Id.* at 784.
146. Administrative Complaint, *supra* note 17, at 5.

> Xing Huang, a business professor at Washington University of St. Louis, and one of the study's authors.
>
> Years of research in behavioral science have shown[147] that people who see losses are motivated to chase them, notes Schüll, like roulette players doubling down after a bad spin. She calls it "the chasing effect, where you want to gamble more on other stocks to make that up, to race to get it back."[148]

Ultimately, these types of features can "intensify user reactions to unexceptional numbers and drive action."[149] Chaudhry and Kulkarni developed a set of "best practices" to apply when designing a trading platform that would encourage more deliberative and less impulsive trading and found that in nearly every instance Robinhood's platform is instead designed to encourage thoughtless and reckless trading.[150]

D. *Social Network-Like Features Encourage Thoughtless "Copy" Trading*

Another troubling type of DEP being increasingly used by trading platforms is the use of social network-like features that allow customers to see, and mimic, the trading activity of other customers. One of the most prominent trading platforms that utilizes social networking features is eToro, which specializes in "copy trading."[151] Essentially, eToro's platform allows customers to see who "the most successful traders are" and then to "automatically copy those users' trades."[152] Other platforms are following suit—a trading platform called Iris alerts its customers "when friends, influencers[,] or celebrities make trades, and lets them

147. *See, e.g.*, Melanie Rose Dixon et al., *What Characterizes Excessive Online Stock Trading? A Qualitative Study*, J. GAMBLING ISSUES, May 2018, at 8, https://jgi.camh.net/index.php/jgi/article/view/3996/4229 [https://perma.cc/H29Y-VZ46].

148. Levintova, *supra* note 8; *see also* Brad M. Barber et al., *Attention-Induced Trading Returns: Evidence from Robinhood Users*, J. FIN. (forthcoming), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3715077 [https://perma.cc/5G87-AY98] (footnote added); *see also* GAMING WALL STREET, supra note 1 (discussing how many Redditors on r/wallstreetbets would post pictures of their account statements showing their GameStop or other losses, referred to as "loss porn").

149. Madison Darbyshire, *Traders Phone Up Gambling Helplines as Game-like Broker Apps Spread*, FIN. TIMES (Oct. 6, 2021) [hereinafter *Traders Phone Up Gambling Helplines*], https://www.ft.com/content/8f9bbc77-06b1-4fbd-8b7e-6e381ba038a7 [https://perma.cc/WMQ6-7S6U].

150. Chaudhry & Kulkarni, *supra* note 24.

151. Harry Robertson, *These Apps Are Betting 'Social Trading' Is the Next Big Thing in Investing, as Millenials and Gen Zers Seek Advice From Finfluencers and Friends*, INSIDER (Nov. 13, 2021, 8:02 AM), https://markets.businessinsider.com/news/stocks/social-copy-trading-millennials-gen-z-retail-investing-finfluencers-2021-11 [https://perma.cc/ZLD4-DBLL].

152. *Id.*

mimic the moves by sending orders to their broker."[153]

The pitfalls of combining social networking features with stock trading are obvious. Successful investing requires careful consideration of each individual's specific investment objectives in light of their personal financial situation, goals, and resources. eToro and other platforms that enable customers to see and copy the trades of others discourages this sort of careful, considered investing. Instead, it encourages customers to thoughtlessly mimic the trades of other customers, which can be potentially disastrous if those other customers have different financial circumstances, risk appetites, and objectives, or if those other customers are simply bad at investing.[154]

E. *Predatory DEPs Work to Induce Frequent and Risky Trading to the Detriment of Retail Investors*

Ultimately, these predatory DEPs work largely as presumably designed and intended to induce customers to engage in risky trading with little thought or consideration. Robinhood customers trade much more frequently than the customers of other brokers; for example, one analysis found that Robinhood customers trade *forty times* as many shares as Charles Schwab customers.[155] The complaint filed by the Massachusetts secretary of state against Robinhood also details how successful Robinhood's DEPs are at inducing frequent trading by its customers.[156] It notes that at least 241 Robinhood customers with no investment experience nevertheless traded at least five times a day, including twenty-five customers with no experience who nevertheless traded more than *fifteen times* per day, with some of them making thousands of trades over the course of just a few years.[157]

Perhaps nothing underscores how effective the predatory DEPs used by platforms such as Robinhood are as the marked increase in calls to gambling addiction helplines from day traders. Many of those traders appear to be developing a compulsion to trade thanks to trading platforms' use of "prompts, animations, rewards and digital flourishes [that] have brought the feel of investing platforms closer to online sports betting and gambling."[158] This has been referred to as the "the Robinhood effect."[159] For these customers, the frequent trading Robinhood's platform is designed to encourage results in something far worse than the 6.5% each

153. *Id.*
154. *Id.*
155. Popper, *supra* note 71.
156. Administrative Complaint, *supra* note 17.
157. *Id.* at 14–18.
158. *Traders Phone Up Gambling Helplines*, *supra* note 149.
159. *Id.*

year that frequent traders can be expected to trail the market.[160] For these customers, gamification also causes them to develop an addiction that can destroy their finances, their careers, their relationships, and even their lives.[161]

Even more concerning, Robinhood customers are fueling a boom in the trading of risky options by retail investors,[162] with a *New York Times* analysis finding that Robinhood customers "bought and sold *[eighty-eight] times* as many risky options contracts as Schwab customers, relative to the average account size."[163] That's because Robinhood makes it extraordinarily easy for its retail investors to trade in options,[164] which belies how complex and extraordinarily risky these products are. Thus, it is unsurprising that Robinhood's customers trade options so frequently, even though options trades are typically unsuitable for the typical Robinhood customer, who has little if any stock market experience and less money to lose.[165]

To qualify for options trading a Robinhood customer simply needs to self-attest to having investment experience greater than "none" and a risk appetite that is "medium" or greater.[166] Once a customer has made this minimal self-attestation, making potentially ruinous options trades is just a few clicks away.[167] Even worse, the Massachusetts secretary of state alleges that Robinhood has not even adequately enforced its own minimal policies and procedures to approve customers for options trading: Robinhood often allows customers to trade options even if they attested they had no investment experience, had a low risk appetite, or both.[168] These allegations were mirrored by an enforcement action against Robinhood by the FINRA, a self-regulatory organization that oversees broker-dealers.

FINRA also found that Robinhood had minimal requirements for allowing its customers to trade options, requiring only minimal self-

160. *See* Chaudhry & Kulkarni, *supra* note 24, at 780–81.

161. *See Traders Phone Up Gambling Helplines*, *supra* note 149 ("'When you're reinforcing that activity, it starts to rewire a person's brain, and translates to habit that for some leads to addiction,' Grondin said.").

162. Gunjan Banerji, *Individuals Embrace Options Trading, Turbocharging Stock Markets*, WALL ST. J. (Sept. 26, 2021), https://www.wsj.com/articles/individuals-embrace-options-trading-turbocharging-stock-markets-11632661201 [https://perma.cc/F6H8-H9JU].

163. Popper, *supra* note 71.

164. *See* Kiernan, *supra* note 109.

165. *See* Osipovich & Banerji, *supra* note 110 ("Some warn that larger order-flow payments from options activity can effectively push inexperienced customers into risky trades they don't understand, exposing them to large potential losses.").

166. Administrative Complaint, *supra* note 17, at 18.

167. Cherdack, *supra* note 115, at 162.

168. *See* Administrative Complaint, *supra* note 17, at 18.

attestations with no attempt at confirmation, and then often failed to enforce these minimal requirements.[169] As a result, young customers with no investment experience, including even teenagers, were allowed to start trading options.[170] Robinhood had to pay $70 million to settle the action, the largest amount ever assessed by FINRA.[171]

However, this extraordinarily high level of options trading is not just because Robinhood makes it easier. It is also because Robinhood's app is designed to prompt its customers to trade options more often:

> It's not difficult to buy broadly diversified exchange-traded index funds on Robinhood, but for a new user the app's homepage focuses attention on individual stocks and cryptocurrencies. As on some but not all rival broker apps, stock and Bitcoin prices pop out visually because they're updated by the moment. *There's also a big button on each trading page offering the choice to use options* . . . . "Unlock More Potential," the app says to users on the options sign-up page.[172]

This trading behavior, encouraged by Robinhood's design, is extraordinarily lucrative for Robinhood, which earned over $700 million in revenue from PFOF in 2020, and earned $1.4 billion in 2021.[173] Much of this comes from high-risk options trades. For example, PFOF from its customers' options trades made up nearly forty percent of Robinhood's total revenue, and nearly half of its PFOF-revenue, in 2021.[174]

While it's clear that this is highly profitable for Robinhood, how do Robinhood's customers fare? In a word, poorly. It has been known for decades that frequent trading is generally bad for retail investors,[175] with frequent traders underperforming the market by around 6.5%, compared to 1.5% for buy and hold investors.[176] This holds for Robinhood customers, who specifically suffer disproportionate losses as a direct result of engaging in broadly suboptimal trading strategies, such as

169. FINRA LETTER, *supra* note 16.

170. *Id.* at 20.

171. FINRA Press Release, FINRA Orders Record Financial Penalties Against Robinhood Financial LLC (Jun. 30, 2021), https://www.finra.org/media-center/newsreleases/2021/finra-orders-record-financial-penalties-against-robinhood-financial [https://perma.cc/Q3PG-EKX2].

172. Egkolfopoulou et al., *supra* note 57 (emphasis added).

173. *Robinhood Markets, Inc. Form 10-k*, *supra* note 112, at 92.

174. *Robinhood Reports Fourth Quarter and Full Year 2021 Results*, ROBINHOOD (Jan. 27, 2022), https://investors.robinhood.com/news/news-details/2022/Robinhood-Reports-Fourth-Quarter-and-Full-Year-2021-Results/default.aspx [https://perma.cc/59EX-UHTN].

175. Bob Pisani, *Attention Robinhood Power Users: Most Day Traders Lose Money*, CNBC (Nov. 20, 2020, 10:04 PM), https://www.cnbc.com/2020/11/20/attention-robinhood-power-users-most-day-traders-lose-money.html [https://perma.cc/33SH-TQDE].

176. Chaudhry & Kulkarni, *supra* note 24, at 780–81.

frequent trading and overreacting in response to market news[177]—which they are induced to do by the predatory DEPs on the platform. Likewise, multiple studies have shown that retail investors perform more poorly the more options they trade,[178] with one study concluding that "*most investors incur substantial losses* on their options investments, which are much larger than the losses from equity trading."[179]

We should also not forget that behind all these numbers in academic studies demonstrating how Robinhood leads its customers to financial losses are real human beings who suffer real hardship that goes beyond dollars and cents and can be devastating, as has been documented in several news accounts.

For example, the recent HBO Max documentary "Gaming Wall Street" had a number of stories of GameStop traders that were poignant if not heartbreaking.[180] One trader referred to himself as "upper middle class homeless" as he got online in his car in a parking lot where he could find free Wi-Fi.[181]

Additionally, a testimonial from an anonymous Robinhood customer published in Vice details how that customer lost $400,000, nearly everything they had, on a single options bet.[182] As he relayed to Vice, this Robinhood customer was relatively conservative when it came to finance, rarely splurging on big ticket items, as evidenced by the fact he was apparently able to save up several hundred thousand dollars by the age of twenty-six despite having come from relatively modest financial circumstances.[183] This conservatism extended to investments.[184] However, after seeing the GameStop frenzy, and suffering from a case of FOMO ("fear of missing out"), this customer bought $5,000 worth of AMC stock which "became $15,000 when I bet on something else, then it

177. Barber et al., *supra* note 148.

178. *See* Yubin Li et al., *Trading Behavior of Retail Investors in Derivatives Markets: Evidence from Mini Options*, 133 J. BANKING & FIN. 106250, 106250 (2021), https://www.sciencedirect.com/science/article/pii/S0378426621002090 [https://perma.cc/CYG4-DUQK].

179. Rob Bauer et al., *Option Trading and Individual Investor Performance,* 33 J. BANKING & FIN. 731, 731 (2008), https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.464.1022&rep=rep1&type=pdf [https://perma.cc/TRF6-GNJW] (emphasis added).

180. See GAMING WALL STREET, *supra* note 1.

181. *Id.*

182. Anonymous as told to Maxwell Strachan, *I Lost $400,000, Almost Everything I Had, on a Single Robinhood Bet*, VICE (Dec. 2, 2021, 9:00 AM), https://www.vice.com/en/article/bvnn3a/i-lost-dollar400000-almost-everything-i-had-on-a-single-robinhood-bet [https://perma.cc/UCQ5-YT9W].

183. *Id.*

184. *Id.*

became $50,000 when I bet on silver."[185] Satisfied with this profit, the customer sought out a "safe bet," and for this "safe bet" settled on investing $300,000, to later be followed with an additional $100,000 "on this one single stock option: The $200 strike price call option on Alibaba."[186]

Of course, nothing about going "all in" on a single stock could ever be considered a "safe bet," particularly when using an option contract that utilizes leverage. Unsurprisingly, within a short period of time the $400,000 this self-described "financially conservative" customer had invested in what he thought was a "safe bet" turned to zero.[187] The story is remarkable because it demonstrates how easily less-experienced customers of game-like trading platforms such as Robinhood can suffer devastating financial consequences without ever even fully realizing that such results are even possible. While this customer acknowledged his own role in the losses he suffered, he also had choice words for how Robinhood's design can lead customers to potential financial ruin:

> The way it's designed, you get dopamine hits. When you place a trade, when you see it go up or down, the green or the red, it's addictive. If their model is [PFOF], there's no question they just want you to trade, no matter if you win or lose money.[188]

There are several other similarly devastating stories of Robinhood customers suffering severe financial hardship because they do not fully grasp the potential risks of the trading activity Robinhood encourages. An April 2021 *Wall Street Journal* story illustrates how damaging platforms like Robinhood can be to the lives of their customers. It tells the story of three friends and amateur investors as they became more heavily engaged in day trading on Robinhood.[189] Some early success, combined with the DEPs of the app—one of the friends explicitly compared the feeling of seeing your Robinhood account going up to the "rush" you feel when doing well in a video game like *Call of Duty*—resulted in each of the friends taking on increasingly larger risks on Robinhood.[190] This included

185. *Id.*

186. *Id.*

187. *Id.*

188. *Id.* Other Robinhood users have voiced similar sentiments. One Robinhood user and blogger, after learning of the tragic death by suicide of Alex Kearns, stated, "Checking back in on [Robinhood], the financial details placed forefront for companies are childish and uninformative to any legitimate investor. This is not a broker anymore." Knipfer, *supra* note 117.

189. Rachel Louise Ensign, *Robinhood, Three Friends and the Fortune that Got Away*, WALL ST. J. (Apr. 22, 2021, 9:56 AM), https://www.wsj.com/articles/robinhood-three-friends-and-the-fortune-that-got-away-11619099755 [https://perma.cc/2FGL-KDKR].

190. *Id.*

trading on margin—i.e., using borrowed money to make trades. Margin trading can amplify gains but is high risk because it can also lead to devastating losses that are many times the initial investment, which is why it is not a suitable strategy for less-experienced investors or those without a lot of money to lose. Nevertheless, the three friends found that signing up for a margin account on Robinhood was remarkably easy, even though none of the friends fully understood how trading on margin worked or how it ramped up their risk. Indeed, when one friend recommended to another that he should begin trading on margin, the second friend responded, "Yeah, and no idea [what the hell] that is."[191]

Eventually, the excessive trading and risk-taking took their toll on these three friends. They even once joked about buying matching Lamborghinis, but their good humor faded as their losses piled up. The friend who fared best had once had an account value of $23,000, but lost almost all of that, ending up with just a $700 gain on top of an initial investment of $4,500.[192] The other two friends featured in the article lost a third of their initial investment.[193] One of the friends experienced a loss of $50,000 on a single trade, which led to a significant amount of despair.[194]

Yet another heartbreaking story about a Robinhood customer was featured in a July 2020 *New York Times* article. That article tells the story of a thirty-two-year-old Navy medic who had previously "dabbled infrequently in stock trading."[195] This changed once he signed up for Robinhood and was "charmed" by its "one-click trading, easy access to complex investment products, and features like falling confetti and emoji-filled phone notifications that made it feel like a game."[196] However, like many Robinhood customers, he quickly found out that investing was much more serious than the fun and easy design of Robinhood had indicated—he funded his account with $15,000 in credit card cash advances, and then later took out a total of $60,000 in home equity loans to cover his losses.[197] In March 2018, when Robinhood suffered a series of outages, he suffered losses of nearly a million dollars.[198] Ultimately, his Robinhood account value sat at $6,956 as of the date the article was published—less than half the $15,000 he put in initially using high-

191. *Id.* ("[Robinhood] prominently features a metric called 'buying power' that includes margin. But they had a hard time finding any similar disclosure of what they might owe if their bets on stocks soured and triggered margin calls.").

192. *Id.*

193. *Id.*

194. *Id.*

195. Popper, *supra* note 71.

196. *Id.*

197. *Id.*

198. *Id.*

interest credit card cash advances.[199]

The most tragic illustration of the destructive harm wrought by Robinhood's use of predatory DEPs to get its less-experienced customers to take on enormous risk is the heartbreaking story of Alex Kearns.[200] Mr. Kearns was a college student whom Robinhood allowed to trade options. Mr. Kearns, at twenty years old, had less experience in trading, and did not understand how much money he stood to lose by trading options.[201] In fact, in his suicide note he stated, "I also ha[d] no clue what I was doing."[202]

His inexperience was exacerbated by Robinhood's confusing design, which led him to believe he could not trade on margin—understandable since he had turned margin trading off, not realizing that his options trades still required the use of margin.[203] Mr. Kearns's risky options trades resulted in massive losses, and he received an unexpected margin call from Robinhood for $178,000 and was led to believe he had lost more than $730,000, when he had thought he could lose no more than $10,000.[204]

After "increasingly desperate" attempts to reach Robinhood customer service, Mr. Kearns "thinking that he was saving his family from financial

199. *Id.* That this user funded his investment account in part with credit card cash underscores the financial inexperience of some Robinhood users: credit card cash advances typically come with extraordinarily high interest rates (often higher than the already-high standard rate for purchases) and fees, which makes turning a profit extraordinarily difficult, if not impossible. *E.g.,* Louis DeNicola, *Can You Buy Stocks with a Credit Card*, EXPERIAN (May 30, 2021), https://www.experian.com/blogs/ask-experian/can-you-buy-stocks-with-a-credit-card/ [https://perma.cc/PCR6-MU7K].

200. *See* Levintova, *supra* note 8.

201. Peter Rudegeair, *Robinhood Faces Wrongful-Death Lawsuit over Young Trader's Suicide*, WALL ST. J. (Feb. 8, 2021), https://www.wsj.com/articles/robinhood-faces-wrongful-death-lawsuit-over-young-traders-suicide-11612813320?mod=article_inline [https://perma.cc/FH4L-SQH8]; *see also* Complaint at 2, 11, *Kearns v. Robinhood Fin. LLC*, No. 21-cv-375872 (Cal. Sup. Ct. Feb. 8, 2021), https://www.courthousenews.com/wp-content/uploads/2021/02/robinhood-1.pdf [https://perma.cc/8M9R-EKFG]. The lawsuit has since been settled. Sarah Jackson, *Robinhood Has Settled a Lawsuit Over the Death of a 20-Year-Old Who Died by Suicide Last Year Thinking He Lost $730,000 on the Stock-Trading App*, INSIDER (Jul. 1, 2021, 5:59 PM), https://www.businessinsider.com/robinhood-settled-suit-suicide-20-year-old-trader-alex-kearns-2021-7 [https://perma.cc/68VP-SBKJ].

202. Mother Jones,*supra* note 20, at 02:15; *see also* Helenowski & Levintova, *supra* note 5.

203. *Id.*; FINRA LETTER, *supra* note 16, at 3; *see also* Tony Dokoupil et al., *Alex Kearns Died Thinking He Owed Hundreds of Thousands for Stock Market Losses on Robinhood. His Parents Have Sued over His Suicide*, CBS NEWS (Feb. 8, 2021, 2:03 PM), https://www.cbsnews.com/news/alex-kearns-robinhood-trader-suicide-wrongful-death-suit/ [https://perma.cc/79QN-RHL2].

204. Rudegeair, *supra* note 201. Robinhood displayed his account balance as -$730,165.72; it was in fact -$365,530.60, further underscoring that Robinhood's platform is far less user-friendly and intuitive than it claims. *See* FINRA LETTER, *supra* note 16.

ruin," took "a screenshot of his Robinhood balance, and got on his bike. He rode through his hometown . . . eventually stopping at a secluded railroad crossing," and "he threw himself in front of an oncoming train."[205] Having opened his Robinhood account when he was a senior in high school,[206] Mr. Kearns tragically died by suicide at the age of twenty.[207]

This is definitely not the legendary Robin Hood fighting for the little guy, and not how you democratize finance. This is how you mislead, manipulate, and exploit young and less-experienced people (he "got on his bike!") to enrich yourself at their expense. Mr. Kearns may be the most extreme example of harm from Robinhood's use of predatory DEPs on its platform,[208] but there is still significant harm inflicted on many of Robinhood's customers.

F. *Robinhood Is Not "Democratizing Finance." It Is Exploiting Its Less-experienced Customers for the Benefit of Itself and Entrenched and Powerful Wall Street Interests*

The extent of the harm Robinhood customers suffer from using its platform in the way it is apparently designed and presumably intended for them to use raises questions about what "democratizing finance" means. According to Robinhood's CEO, this means "open[ing] up investing to a younger and more diverse group of Americans," particularly younger Americans with less money to invest, and who are less experienced in the stock market.[209] But this cannot be enough to constitute "democratizing" finance. After all, payday lenders provide "access" to loans for Americans who do not have a lot of money, and hardly anyone would consider payday lenders to be "democratizing lending," particularly because payday lenders trap their customers in an endless cycle of debt.[210]

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205. Levintova, *supra* note 8.

206. *Id.*

207. Rudegeair, *supra* note 201.

208. Helenowski & Levintova, *supra* note 5 ("Following Kearns' suicide—and a few fines and investigations—Robinhood has made some changes to its design. It removed confetti from the app earlier this year, along with other design features that evoked gambling or games of chance, like scratch-off tickets."); see also Caitlin McCabe, *Robinhood to Remove Controversial Digital Confetti from Trading App*, WALL ST. J. (March 31, 2021, 7:11 PM), https://www.wsj.com/articles/robinhood-to-remove-controversial-digital-confetti-from-trading-app-11617195612 [https://perma.cc/G7NL-TPUB].

209. Tenev Testimony, *supra* note 139, at 4.

210. *Ending Debt Traps in the Payday and Small Dollar Credit Industry: Hearing Before the Subcomm. on Consumer Prot. & Fin. Insts. of the H. Fin. Servs. Comm.* 116th Cong. 5–7 (2019), https://financialservices.house.gov/uploadedfiles/hhrg-116-ba15-wstate-petersonc-20190430.pdf [https://perma.cc/4WQX-W86S] (testimony of Christopher L. Peterson) (explaining that payday lenders "intentionally design their business models to keep low- and moderate-income consumers trapped in debt"); *see also* Better Mkts. Inc., Comment Letter on Payday, Vehicle Title, and Certain High-Cost Installment Loans, Docket No. CFPB-2019-0006,

Robinhood's marketing pitch, which begins with its name and logo, conjures up the idea that there are easy riches to be had in the stock market if only there was a selfless Robin Hood to help everyday investors take from the rich Wall Street insiders and give to the poor Main Street outsiders who are supposedly locked out of investing.[211] The claim is that those riches are inaccessible to everyday Americans largely due to lack of ability to buy and sell stocks and options with the swipe of a finger on a phone app and at no apparent upfront cost.[212]

However, investors are extremely unlikely to make money by engaging in the risky, frequent, speculative trading that Robinhood encourages for its retail customers,[213] especially given that Robinhood specifically "targets younger individuals who are more likely to have little to no investment experience" and who are "less likely to be financially literate."[214] This is because the stock trading industry is by and large populated by very wealthy, highly sophisticated, professional traders and investors, many of whom have advanced degrees in complex fields such as math and computer science, and who, on top of that, also get the benefit of using the most advanced technology money can buy. Those already decided advantages are multiplied by those traders also having an unmatched informational advantage from "seeing" in real time the flows from multiple markets and not just on and off exchange trading venues, but also the cash, futures, swaps, physical, and related markets.[215] This is

RIN 3170-AA80, 84 Fed. Reg. 4252 (May 15, 2019), https://www.bettermarkets.org/sites/default/files/Better%20Markets%20CL%20CFPB%20Payday%20Underwriting%20Rescission%205-15-2019_0.pdf [https://perma.cc/9VFP-W6ZK] (explaining that payday lenders create a "financial prison . . . by trapping consumers in never-ending cycles of unaffordable debt").

211. Note also how Robinhood conflates investing with trading as if they are synonymous when they are decidedly not. Robinhood is clearly a trading platform, not an investing platform, which is a consequence of its decision to get the vast majority of its revenue from PFOF which only increasingly "flows" if Robinhood's customers trade more and more.

212. *Welcome to the New Wall Street*, ROBINHOOD (Jul. 29, 2021), https://blog.robinhood.com/news/2021/7/29/welcome-to-the-new-wall-street [https://perma.cc/JD8H-VE3L] ("The new Wall Street lives on Main Street, and it's a place for everyone—not just men in suits or big financial institutions.").

213. Pisani, *supra* note 175.

214. Professor Bogan Testimony, *supra* note 58, at 3.

215. Ironically, that advantage now often includes "signal" information "scraped" from social media sites, including r/wallstreetbets, other Reddit forums like r/SuperStonk, Twitter, TikTok, and elsewhere. Lionel Laurent, *Laughing at Matt Damon, and Other Meme-Stock Metrics*, BLOOMBERG: QUINT (Jan. 5, 2022, 12:54 AM), https://www.bloombergquint.com/gadfly/laughing-at-matt-damon-on-reddit-twitter-and-other-crypto-meme-stock-metrics [https://perma.cc/3VFR-CHR6]; see also Caitlin Ostroff & Paul Vigna, *Wall Street Is Looking to Reddit for Investment Advice*, WALL ST. J. (Aug. 27, 2021, 2:27 PM), https://www.wsj.com/articles/wall-street-is-looking-to-reddit-for-investment-advice-11630056648 [https://perma.cc/82U7-8A29].

who Robinhood's new Main Street traders are up against when "accessing" the stock market. It is beyond reasonable doubt that the vast majority of retail investors, no matter how smart or how much research they do, cannot compete against those financial professionals.

That is why retail traders consistently significantly underperform the market. Robinhood does not offer its customers anything that makes up for this extreme disparity in resources and real-time relevant information that might help level the playing field. It simply allows them to easily get onto a playing field that is already decidedly tilted against them where they will almost certainly be repeatedly bested by longtime, professional players with superior resources. Making that worse, Robinhood then encourages them to engage in trading as often and riskily as possible and calls that "democratization." It is like saying anyone familiar with water can compete in a high diving competition, even though some do not know how to swim—much less have diving experience—and others are deeply experienced Olympic gold medal winners in high diving. Sure, they can both jump off the diving board, but the outcomes are going to be vastly different.

Truly democratizing finance must mean more than simply reducing the apparent costs and other barriers to entry for stock trading, and certainly must mean more than making it a "delightful" or fun experience. As one study demonstrated, as online platforms for stock trading reduced the visible transaction costs, the result for those who switched from traditional trading platforms to online trading was to cause "these participants [to] trade more actively, more speculatively, and *less profitably* than before."[216] Thus, such limited democratizing changes (if they can even fairly be called that) appear to only make it easier for the Robinhoods of the world to enable their customers to enter a competition against much better equipped players, which accordingly means it is an unfair competition that those customers are likely to lose. Enabling its relatively young and less-experienced customers to lose money trading in the stock market more easily, for Robinhood's benefit, is not democratization.

Genuine democratization of finance should focus primarily on helping Americans use the financial system to reach specific achievable outcomes, such as wealth accumulation, saving for specific goals like buying a house or retirement, or building a nest egg for emergencies. Democratization also would focus on demystifying the financial system so that more Americans understand how it works and have a clearer idea of the risks associated with their various financial options, and, most

216. *See* Vicki L. Bogan, *Household Investment Decisions*, *in* INVESTOR BEHAVIOR: THE PSYCHOLOGY OF FINANCIAL PLANNING AND INVESTING 83, 86 (H. Kent Baker & Victor Ricciardi eds., 2014) (emphasis added).

importantly, to assist them with making truly informed decisions tailored to their particular circumstances. Genuine democratization would not just focus on providing supposedly "easy" access to the markets (without making clear how those markets work, or the risks involved in entering those markets), or the customer experience (which, enjoyable as it may be, has little to do with whether someone makes or loses money). Put differently, rather than focus on the process of accessing markets and the experience of customers, real democratization would focus on positive trading and investing outcomes for a broader set of Americans.

Ultimately, democratization means making it easier for Main Street Americans to actually make money in the stock market, which is possible for retail investors, but unlikely if they engage in the frequent trading strategy Robinhood and other platforms that use predatory DEPs encourage. Rather, for most individual retail investors, using the stock market to make money and achieve realistic, but ambitious, financial goals typically means foregoing the often frequent attempt (and, yes, excitement) of making a quick buck, and instead opting for a longer-term buy-and-hold strategy that allows customers to take advantage of compound returns to increase their wealth. Put differently, it would enable and encourage customers to think of themselves as investors, not merely traders.

In other words, *truly democratizing finance means making stock trading and investing a wealth creation system, not a wealth extraction mechanism*. That means making it easier to use the stock market as a long-term savings and investment vehicle to build wealth, not as a slot machine that makes glitzy promises of a big payoff but is in fact more likely to drain your bank account, leaving you worse off than when you started.

Importantly, encouraging customers to engage in non-exploitative investment strategies does not require abandonment of DEPs, which can be used to nudge customers towards investing and saving behavior that will be profitable for themselves just as easily as they can be used to nudge customers towards trading behavior that will be profitable for the platform.[217] For example, Fidelity (which does not accept PFOF),[218] explained in its response to the SEC's request for information (RFI) on DEPs that it uses DEPs to allow its customers "to explore, for example,

217. *See* Chaudhry & Kulkarni, supra note 24 (identifying a set of "best practices" to apply when designing a trading platform that would encourage more deliberative and less impulsive trading); Julie Jargon, *Investing, Not Gambling: These Apps and Services Help Young Stock Buyers Think Long Term*, WALL ST. J. (March 13, 2021), https://www.wsj.com/articles/investing-not-gambling-these-apps-and-services-help-young-stock-buyers-think-long-term-11615644000?mod=Searchresults_pos2&page=1 [https://perma.cc/SW9Z-YWAA].

218. *Commitment to Execution Quality*, FIDELITY, https://www.fidelity.com/trading/execution-quality/overview [https://perma.cc/VX9U-CJAD].

asset allocation strategies, diversification, and goal-based planning."[219] Similarly, according to its response to the RFI, Wealthfront (which also does not accept PFOF)[220] uses DEPs to, among other things, "inform clients if their actions are inconsistent with their financial objectives and risk tolerance."[221]

Assuming these DEPs are based on an assessment of customers' investment objectives and financial situation, these would seem to be the sorts of uses of DEPs that could be fairly said to democratize finance (without in any way endorsing those particular platforms or DEPs). Nor does encouraging prudent, long-term investment and saving strategies mean abandoning "fun" and "engaging" features. Confetti and other celebratory graphics for making trades are not problematic DEPs because they make customers feel good, but because celebratory graphics for trading subliminally stimulate and give positive reinforcement to an action that will end up being detrimental to customers—a bit like giving someone a pat on the back for each puff of a cigarette.[222] By contrast, Wealthfront uses confetti graphics to celebrate when users deposit more money into their investment account, an action that is more likely to lead to long-term financial health—a bit like giving someone an encouraging pat on the back for completing each mile when running a marathon.[223] Similarly, a DEP could provide confetti, balloons, or other types of psychic rewards when the securities in their account appreciated in value and, therefore, their wealth increased. This would be a reward for a buy-and-hold, long-term strategy, rather than inducing a short-term, likely losing, trading strategy.

Instead, what Robinhood offers is a bit like sending a part-time, local recreational baseball team onto a field to play the 2021 World Series Champion Atlanta Braves. The local team may be filled with players who are better, much better even, than the average person is at baseball. At the same time, Atlanta's players are each among the very best at baseball in the world. That's not only because they have talent, but because they also have access to the best equipment, the best coaches, the best training

219. Fidelity Invs., Comment Letter on Digital Engagement Practices 6 (Oct. 1, 2021), https://www.sec.gov/comments/s7-10-21/s71021-9315880-260065.pdf [https://perma.cc/QMX6-GP3W].

220. Andy Rachleff, *The Silent Assassin of Fees*, WEALTHFRONT BLOG (Jul. 26, 2017), https://blog.wealthfront.com/silent-assassin-fees/ [https://perma.cc/299E-78V6].

221. Wealthfront Corp., Comment Letter on Digital Engagement Practices 3 (Oct. 8, 2021), https://www.sec.gov/comments/s7-10-21/s71021-9332518-260240.pdf [https://perma.cc/HH2T-9R4D].

222. Similarly, rewards can be highly predatory DEPs. *See* Mother Jones, *supra* note 20; *see also* Helenowski & Levintova, *supra* note 5.

223. Wealthfront Corp., Comment Letter on Digital Engagement Practices 5 (Oct. 8, 2021), https://www.sec.gov/comments/s7-10-21/s71021-9332518-260240.pdf [https://perma.cc/HH2T-9R4D].

techniques, the best analytical tools, and much more. And Atlanta's players are professionals with many years of highly specialized training. They and their sophisticated support teams spend most of their waking hours dedicated to getting better at baseball.

None of that is the case for the players on the local recreational baseball team. The players on the local team playing the World Champions may manage to get on base a few times, or even get a hit, but there is no doubt who is going to win the game, almost certainly by a large margin. Other than the occasional fluke,[224] everyone knows that when part-time hobbyists take on full-time professionals, professionals win. Sending hobbyists to compete against professionals who are certain to win is not "democratizing" anything; it simply tees up a preordained outcome: professionals win and amateurs lose—regardless of the game.[225]

Robinhood's marketing is analogous to telling this local recreational team that the only thing they need to win against World Champions is to get on the field. Robinhood creates and fuels an unrealistic expectation. However, what Robinhood is doing is actually much worse because, at least in baseball, once you get on the field and see the competition (the World Champion Atlanta Braves team) it is readily apparent that merely getting on the field likely has no relationship to success. In contrast, everything Robinhood does with its platform is to disguise the professional piranhas waiting to exploit its customers. Adding insult to injury, Robinhood actually serves up its unsuspecting customers to those professionals—the modern-day Bernie Madoffs—via PFOF. Given the

224. See Jon Sarlin, *'I Don't Feel Like a Pro, but I'm Acting Like a Pro.' These GameStop Traders Struck Gold. Then Came the Hard Part*, CNN: BUSINESS (Feb. 1, 2022, 11:37 PM), https://www.cnn.com/2022/02/01/investing/gamestop-meme-stock-anniversary/index.html [https://perma.cc/2TJ9-Q5P6].

225. Many believe that the Reddit rebellion with GameStop is at least a partial counterexample. They believe that they—the amateurs—had bested the market pros by orchestrating a short squeeze on nefarious hedge funds like Melvin Capital. Those pros were going to be driven into bankruptcy due to massive losses arising from covering their short positions as the prices were skyrocketing due to the amateurs buying and/or holding (i.e., not selling) no matter the price increase. Yet, just as the amateurs had the shorting hedge funds (the pros) on the ropes, Robinhood and other retail brokers prohibited additional purchases ("removed the buy button") which caused the prices of the stocks to plummet and allowed the pros to cover their short positions, reducing their losses and preventing their bankruptcies. Sure, one high profile hedge fund, Melvin, lost a lot of money and needed a $2.8 billion bailout, see *supra* note 13, but the pros got away with it and most of the amateurs were again bested, although this time the rigging of the markets was blatant and visible even if, arguably, legal. *See, e.g.,* Spencer Jakab, *Who Really Got Rich from the GameStop Revolution?*, WALL ST. J. (Jan. 29, 2022, 12:18 PM), https://www.wsj.com/articles/who-really-got-rich-from-the-gamestop-revolution-11643432418 [https://perma.cc/WU5P-9T57]. *But see*, Caitlin McCabe & Alexander Osipovich, *GameStop Investors Still Await Riches from Epic Short Squeeze*, WALL ST. J. (Feb. 5, 2022, 8:00 AM), https://www.wsj.com/articles/gamestop-investors-still-await-riches-from-epic-short-squeeze-11644066002 [https://perma.cc/33WX-SUHR].

money at stake, this is not game.

Unlike baseball or other sports, Robinhood's customers are not playing a game no matter how much the platforms are gamified, and they are risking a lot more than a bruised ego. It is their hard-earned money that is at stake. Robinhood, through its predatory use of DEPs, encourages these customers to risk their money (often pegged for important life goals such as paying down debt, buying a house, paying for the education of a child, or retirement[226]) by engaging in trading strategies that are suboptimal at best and disastrous, even deadly, at worst. Encouraging less-experienced investors, without much money to lose, to more frequently engage in a risky competition against professionals with vastly superior resources, information, and abilities is not "democratization." It is predatory and manipulative, and is designed to allow Robinhood, and its founders, who are now billionaires, to profit at its customers' expense.[227]

Robinhood's activities also help line the pockets of its real customers, which are HFTs like Citadel Securities that pocket billions of dollars a year from the lucrative retail order flow Robinhood and other brokers sell them.[228] As the reporter Hannah Levintova reminds us, "[t]he money flows [of PFOF] evoke a key lesson of the digital age: If something is free, then you're not the customer—you're the product being sold" to someone else, in this case, the HFT firms like Citadel Securities.[229]

Anyone who doubts Robinhood's incentives and focus need only read the facts of the SEC enforcement action detailed above: The SEC found that Robinhood solicited "unusually high" PFOF payments, even though it knew this meant its customers would inevitably lose money from inferior execution quality. Even worse, according to the SEC, Robinhood undertook an analysis that confirmed that it was ripping off its customers and kept right on ripping them off and deceiving them about it.[230] It took from its young, less-experienced customers, who mostly have fewer resources to begin with, and gave to billionaire HFT firms and itself, with

226. Ensign, *supra* note 189 ("Mr. Norkin wanted to buy a house and build his retirement fund after years of pouring money into his business. Mr. Garcia was expecting his first child and considered opening a Roth IRA for her. Mr. Ela planned to pay off his student loans and credit-card debt he accumulated while in college.").

227. Anders Melin, *Robinhood Duo Ride Trading Frenzy to Billionaire Riches*, BLOOMBERG WEALTH (Jul. 29, 2021, 7:30 AM), https://www.bloomberg.com/news/articles/2021-07-29/robinhood-duo-ride-retail-trading-frenzy-to-billionaire-riches?sref=mtQ4hc2k [https://perma.cc/X6B6-CMPE].

228. Alex Kirshner, *What Everyone Who's Mad at Robinhood Got Wrong*, SLATE (Feb. 3, 2021, 12:45 PM), https://slate.com/technology/2021/02/robinhood-gamestop-stock-business-model.html [https://perma.cc/XN92-7JQL] ("Robinhood is a you-are-the-product company.").

229. Levintova, *supra* note 8.

230. *See supra* notes 92–98.

its founders in turn becoming billionaires themselves.[231]

This conduct is practically the opposite of the Robin Hood imagery Robinhood's marketing attempts to portray, which begins with its invocation of the legendary populist outlaw, who was famous for taking from the rich and giving to the poor, not taking from the poor and giving to himself and his rich friends. It makes one wonder whether the "Sheriff of Nottingham" would be a more accurate name for "Robinhood" and whether its ticker symbol should be "HOODLUM" rather than "HOOD."

IV. THE SEC'S POTENTIAL RESPONSES TO ISSUES RAISED BY DEPS

The risks that platforms like Robinhood and their predatory, PFOF-fueled use of DEPs pose to investors are clear and obviously warrant considered action by the SEC. Fortunately, the SEC under Chairman Gary Gensler seems prepared to give careful thought to many of the issues raised by the GameStop trading frenzy, including PFOF and DEPs. The SEC also has existing tools it can use to address some of the issues raised by PFOF and DEPs, including its recently promulgated Regulation Best Interest (Reg. BI) which, although seriously flawed,[232] at least provides the SEC with a potential avenue for addressing some of the harmful conflicts of interest that exist between Robinhood and its customers. Ultimately, whatever the SEC does do to address the issues raised by the meme stock frenzy, it must be focused on protecting investors, not predatory business models.

A. *Revisiting the Regulation of PFOF*

As explained above, PFOF is a longstanding practice that is crucial to the relatively new business model of game-like trading platforms with predatory DEPs such as Robinhood. More specifically, PFOF incentivizes platforms to design their apps with predatory DEPs that

231. Melin, *supra* note 227. It is also worth noting that these self-proclaimed democratizers of finance also structured Robinhood with two classes of stock to ensure they would control the company, not the public shareholders: While co-founders Tenev and Bhatt will each own 7.9% of Robinhood's outstanding shares, they "will own all of Robinhood's Class B shares after the offering. Those shares have [ten] times as much voting power as Class A shares" giving Tenev and Bhatt sixty-five percent control of voting power. Ari Levy *Fintech Keeps Minting Billionaires as Robinhood Co-Founders Prepare for Massive IPO*, CNBC, (July 19, 2021, 6:02 PM), https://www.cnbc.com/2021/07/19/robinhood-founders-to-be-worth-over-5-billion-as-fintech-ipos-pile-up.html [https://perma.cc/K5GY-VZGV].

232. *See* Micah Hauptman & Stephen Hall, *XY Planning Network, LLC v. SEC: Broker Conflicts of Interest, Regulation "Best Interest," and Investors' False Sense of Security*, THE FINREG BLOG (Mar. 5, 2020), https://sites.law.duke.edu/thefinregblog/2020/03/05/xy-planning-network-llc-v-sec-broker-conflicts-of-interest-regulation-best-interest-and-investors-false-sense-of-security/ [https://perma.cc/963D-RLLU].

induce precisely the sort of risky trading that too often leads to devastating losses for retail investors. Whatever merit there may have been in the SEC's past decision not to meaningfully regulate PFOF, that decision must be revisited given the development of trading platforms that make predatory use of DEPs to induce harmful trading because of PFOF incentives.

The SEC does appear to be poised to address both the old and new concerns raised by PFOF. SEC Chairman Gensler has expressed significant skepticism about the practice, recognizing correctly that the practice carries with it an inherent conflict of interest, that it has fueled the proliferation of harmful DEPs, and that the "commission-free" trading enabled by PFOF is not free, but carries with it hidden costs.[233] Accordingly, Chairman Gensler said he is open to any and all avenues to address the various issues raised by PFOF, from requiring greater disclosure about the practice and how it harms investors, to outright banning the practice.[234]

The industry has predictably responded to this possibility with a full-court lobbying press[235] predicting doom for the capital markets and retail investors if PFOF is banned.[236] Among other things, industry's objections have resulted in at least one bill, authored by Senator Pat Toomey (R-PA), that would prohibit the SEC from banning the practice.[237]

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233. Thomas Franck, *SEC Chief Gensler Says Regulator Assessing Future of Payment for Order Flow*, CNBC (Oct. 19, 2021, 2:35 PM), https://www.cnbc.com/2021/10/19/sec-chief-gensler-says-regulator-assessing-payment-for-order-flow.html [https://perma.cc/9HCQ-5XGP].

234. *See id.*

235. *See* Miriam Rozen, *Robinhood Tripled Prior Year's Lobbying Spend in First Half of 2021*, ADVISORHUB (Aug. 17, 2021), https://www.advisorhub.com/robinhood-tripled-prior-years-lobbying-spend-in-first-half-of-2021/ [https://perma.cc/C6EE-4A5K]; Theodoric Meyer, *Robinhood Builds a Presence on K Street*, POLITICO (Aug. 14, 2020, 2:38 PM), https://www.politico.com/newsletters/politico-influence/2020/08/14/robinhood-builds-a-presence-on-k-street-789942 [https://perma.cc/U3E8-NS67].

236. Alexander Osipovich, *High-Speed Trader Virtu Fires Back at Critics Amid Meme-Stock Frenzy*, WALL ST. J. (June 13, 2021), https://www.wsj.com/articles/high-speed-trader-virtu-fires-back-at-critics-amid-meme-stock-frenzy-11623592801 [https://perma.cc/M8CS-L4RT] ("In an interview, Mr. Cifu warned that banning the practice and requiring that individual investors' orders be sent to exchanges would harm small investors. 'Retail investors would get a much, much worse experience,' he told The Wall Street Journal.").

237. *Wall Street Pushes Back*, *supra* note 89; *see also*, Thomas Franck, *GOP Senator Toomey Debuts Bill to Protect Broker Revenues, Payment for Order Flow*, CNBC (Oct. 28, 2021, 10:17 AM), https://www.cnbc.com/2021/10/28/gop-senator-toomey-debuts-bill-to-protect-payment-for-order-flow.html [https://perma.cc/TMR2-BPT6] ("'New innovations—such as zero-commission trading and user-friendly mobile apps—have allowed more Americans to participate in the stock market than ever before,' Toomey, the ranking member on the Senate Banking Committee, said in a press release."); Eleanor Terrett & Charles Gasparino, *Robinhood Gets Boost as Congress Declines Ban—for Now—on Sales Tactic*, FOX BUSINESS (Aug. 15,

Nevertheless, the SEC should give careful consideration to banning PFOF, which has been done in jurisdictions including the United Kingdom, Canada, and Australia,[238] and has, unsurprisingly, not resulted in harm to those markets or retail investors in those countries.[239] In fact, a 2016 report by CFA Institute, a global association of industry professionals, found that after the United Kingdom banned PFOF, there was "an increase in the proportion of retail-sized trades executing at best quoted prices between 2010 and 2014 from 65% to more than 90%."[240] In other words, banning PFOF resulted in a significant improvement in execution quality for retail orders, a development that is "a positive one for market integrity because it implies that displayed liquidity providers are rewarded with executions at the price they quote."[241] The same can be expected here, as suggested by the recent study by the Dutch Authority for the Financial Markets which found that customer orders routed to venues that paid for those orders received price improvement, at most, eight percent of the time.[242] Put differently, ninety-two percent of the time customers will benefit by the elimination of PFOF.

Another option for mitigating the inherent conflict between PFOF and the best execution requirement would be to have a definition of "best execution" that is more strictly focused on the best price available at the

2021), https://www.foxbusiness.com/markets/robinhood-boost-congress-declines-ban-pfof-sales-tactic [https://perma.cc/M78K-DWR9].

238. Mark Kolakowski, *SEC Considers Banning Payment for Order Flow*, INVESTOPEDIA (Oct. 22, 2021), https://www.investopedia.com/sec-considers-banning-payment-for-order-flow-5199447 [https://perma.cc/SUU5-53GH].

239. *Wall Street Pushes Back*, *supra* note 89.

240. SVIATOSLAV ROSOV, CFA INST., PAYMENT FOR ORDER FLOW IN THE UNITED KINGDOM 1 (2016), https://www.cfainstitute.org/-/media/documents/article/position-paper/payment-for-order-flow-united-kingdom.ashx [https://perma.cc/4PRM-KJE7].

241. *Id.* at 2. To be clear, calling for enhanced regulation to address the harms caused by PFOF (including its elimination) is not the same as suggesting that those responsible for executing trades for investors should not be able to make a profit for those services. Whether it is via commission, capturing the spread, other revenue streams or other business models, those who facilitate execution of trades certainly deserve fair compensation. However, any and all such compensation (in whatever direct or indirect form) should be clear, expressly stated, and fully disclosed upfront to investors. Moreover, it should not contribute to conflicts of interests between brokers and their clients, should not needlessly fragment markets, should not result in darker and/or off exchange trading, should not be anti-competitive or create barriers to entry, and should not encourage more trading for the sake of more trading. Such a trading compensation system should maximize liquidity, reduce spreads, benefit investors, make capital raising less costly for businesses, and otherwise facilitate capital formation and allocation.

242. *See* Stafford, *supra* note 98; *see also The PFOF Defenders*, THEMIS TRADING LLC: BLOG (Mar. 2, 2022), https://blog.themistrading.com/2022/03/the-pfof-defenders/ [https://perma.cc/CG62-MKBS] (reproducing two charts from Nasdaq showing "that spreads have actually been widening during the zero-commission era").

time of the trade,[243] rather than using the misleadingly incomplete NBBO or the confusing and subjective multi-factor test that is currently used to assess compliance with the "best execution" requirement. It is past time to end the misleading if not fraudulent claim of "price improvement."

B. *Addressing DEPs*

The SEC also appears on its way to addressing the use of DEPs more directly, with its opening salvo being an RFI about these practices.[244] The comments submitted to the SEC in response to the RFI largely broke down along predictable lines. The industry, including platforms like Robinhood that benefit from predatory DEPs, insisted that these features provide customers with a variety of benefits, but ignored evidence of harm associated with the PFOF-fueled use of DEPs by trading platforms.

Robinhood's comment was illustrative of this approach. In its comment, Robinhood argued strenuously that it provides the "have-nots" with the benefits the "haves" enjoy.[245] These benefits supposedly include things like "receiv[ing] information from friends and colleagues discussing the markets and finances over dinner, golf, or a cocktail party" or "an investment professional who will answer questions, provide explanations, and highlight relevant information."[246] Putting aside whether Robinhood's platform actually provides the equivalent of any of these, this is simply a disingenuous representation of the advantages the "haves" enjoy over Robinhood's less-experienced customers. Professional traders do not beat retail investors because of idle market chatter on the back nine of a golf course. Rather, as explained above in Section III.F, the advantages that the typical stock market professional will have over the typical Robinhood customer are broad, deep, and largely insurmountable: advanced degrees reflecting technical expertise in relevant complex fields, such as mathematics and computer science; deep knowledge of the markets gained over years or decades of trading experience; the most advanced equipment money can buy that, among other things, allows them to process enormous amounts of data quickly; and real-time information on and visibility into multiple markets

243. Better Markets has made this suggestion. *See* Kelleher Testimony, *supra* note 47, at 21 (urging Congress and regulators to consider whether to replace the multi-factor best execution standard with "a standard more strictly focused on pricing").

244. Request for Information and Comments on Broker-Dealer and Investment Adviser Digital Engagement Practices, Related Tools and Methods, and Regulatory Considerations and Potential Approaches; Information and Comments on Investment Adviser Use of Technology to Develop and Provide Investment Advice, 86 Fed. Reg. 49,067 (Sept. 1, 2021).

245. *See generally* Robinhood Fin., LLC, Comment Letter on Digital Engagement Practices (Oct. 1, 2021), https://www.sec.gov/comments/s7-10-21/s71021-9316498-260092.pdf [https://perma.cc/M4P9-HKXU].

246. *Id.* at 4.

simultaneously that they can use to maximize their profits, which come from Robinhood's customers. Push notifications about the latest earnings reports and top mover's lists cannot possibly be expected to make up for this enormous gulf, and it is absurd and misleading if not fraudulent to suggest otherwise.

Robinhood also argued that stronger regulation of DEPs could threaten its "user-friendly interface" that is "accessible" and "enjoyable" for its customers.[247] This builds off its CEO's testimony before the House Financial Services Committee, in which he insisted that Robinhood provides its customers with the "intuitive experience customers want."[248] Robinhood may provide its customers "intuitive" experience that they "expect" and "enjoy,"[249] but that is or should be largely beside the point. Such supposed "benefits" are fleeting and ephemeral and disappear the second a customer (finally) logs off the platform. By contrast, the financial disadvantages and losses that Robinhood's customers disproportionately suffer are real and lasting. This would be a bit like arguing against regulating tobacco use because cigarette smokers enjoy the act of smoking. An experience might be (temporarily) "delightful," but, if—like smoking—it kills you, that prior enjoyable experience is not something to be promoted. Similarly, if an app facilitates being ripped off of your hard-earned money (or worse, money you don't have), whatever delightfulness there was, is not worth it.

Actual investor advocates introduced evidence of the concrete harm retail investors that use platforms like Robinhood suffer, and urged the SEC to take strong action to address it.[250] Examples of steps the SEC could take to mitigate the risks posed by manipulative and predatory DEPs include[251]:

> (1) prohibiting describing no-commission trades as "commission-free trading";
>
> (2) if platforms continue to be allowed to refer to "commission-free"

247. *Id.* at 2, 12.

248. Tenev Testimony, *supra* note 39, at 6.

249. *But see supra* Section III.E.

250. *See, e.g.*, Better Mkts., Comment Letter on Digital Engagement Practices (Oct. 1, 2021), https://bettermarkets.org/wp-content/uploads/2021/10/Better_Markets_Inc._Comment_Letter_on_Digital_Engagement_Practices_RFI.pdf [https://perma.cc/C64H-266B]; N. Am. Sec. Adm'rs Ass'n, Comment Letter on Digital Engagement Practices (Oct. 1, 2021), https://www.sec.gov/comments/s7-10-21/s71021-9316149-260067.pdf [https://perma.cc/LDR5-GSDF].

251. Of course, the SEC's regulations should recognize, as we have explained in this Article, that not all DEPs are harmful, and that not all ways investment platforms can use DEPs are harmful. Ideally, any SEC rule addressing DEPs would promote the use of DEPs that provide real, actual financial benefits to investors, while minimizing or eliminating the use of predatory DEPs that lead investors to losses while benefiting platforms.

trading, requiring prominent disclosure of payments the platform receives that enable that "commission-free" trading, and what costs customers can expect to pay as a result of the preferential, PFOF-induced routing of orders to receive those kickbacks;

(3) regulating how platforms present market news and other information to customers, so that it is less likely to lead to overreaction and impulsive trading;

(4) requiring significantly more robust gatekeeping devices before customers are allowed to engage in risky trading, such as frequent day trading and trading in options; and

(5) severely restricting, or eliminating, the predatory use of DEPs that give positive reinforcement for engaging in risky investment practices.

C. *Use Reg. BI to Address Conflicts Between Trading Platforms and Customers*

The SEC does already have tools at its disposal to mitigate some of the risks DEPs pose to retail investors, including most prominently its antifraud authority.[252] Some also believe that one of these tools is Reg. BI, which was promulgated by the SEC in 2019.[253] That rule, while significantly deficient in many respects,[254] could provide the SEC with some ability to address the inherent conflict of interest between what is best for platforms like Robinhood, and what is best for their customers.[255]

Reg. BI applies whenever a broker makes "a recommendation of any securities transaction or investment strategy involving securities (including account recommendations) to a retail customer."[256] Thus, the literal wording of Reg. BI extends beyond just recommending specific stocks. And it is reasonable to conclude that some of the DEPs in use today, alone or in combination, constitute "recommendations" within the meaning of the rule, as they directly or indirectly steer investors into intensive trading in securities (often specific securities), trading in groups of securities, and trading through the use of various types of accounts.

252. See, e.g., Dennis Kelleher, *Putting the SEC Cops Back on the Wall Street Beat*, THE HILL (May 3, 2021, 11:30 AM), https://thehill.com/opinion/finance/551408-putting-the-sec-cops-back-on-the-wall-street-beat [https://perma.cc/X4J9-Q294]; Dennis Kelleher, *It's Time To Ramp Up Punishment for Wall Street Wrongdoers*, LAW360 (Feb. 16, 2021, 5:55 PM), https://www.law360.com/articles/1354083 [https://perma.cc/TL3A-D35A].

253. Regulation Best Interest, 84 Fed. Reg. 33,318 (July 12, 2019).

254. Hauptman & Hall, *supra* note 232.

255. Note, however, that the SEC's Investor Advocate has questioned whether or not Reg. BI can address these issues. Al Barbarino, *'Gamification' Exposes Major Reg BI Flaw, SEC Official Says*, LAW360 (Oct. 13, 2021, 4:37 PM), https://www.law360.com/articles/1430578.

256. 17 C.F.R. § 240.151-1(a)(1) (2021).

In the adopting release to Reg. BI, the SEC also made clear that the analysis of what constitutes a "recommendation" will be based on the facts and circumstances, and is to be read broadly to include "recommendations about types of accounts, such as day trading, margin, or option accounts . . . regardless of whether or not they involve specific securities transactions."[257] And SEC Commissioner Allison Lee in November 2021 explained that brokers need to start thinking seriously about which of their practices constitute recommendations in the ever-evolving landscape of broker-dealer interactions with their clients.[258]

D. *Whatever Action It Takes, the SEC Must Focus on Protecting Investors, Not Predatory Business Models*

One of the primary reasons Reg. BI was so flawed from the perspective of investor advocates is that the SEC during the Trump administration prioritized protecting the broker-dealer business model

257. Better Mkts., Comment Letter on Digital Engagement Practices 11 (Oct. 1, 2020), https://bettermarkets.org/wp-content/uploads/2021/10/Better_Markets_Inc._Comment_Letter_on_Digital_Engagement_Practices_RFI.pdf [https://perma.cc/C64H-266B].

258. Commissioner Allison Herren Lee, A Call to Action: *Recommendations* for Complying with Reg BI Remarks at the ALI CLE 2021 Conference on Life Insurance Company Products (Nov. 4, 2021), https://www.sec.gov/news/speech/lee-complying-reg-bi-20211104 [https://perma.cc/WKR8-929F]. Robinhood and other platforms have strongly objected to any attempt to characterize their DEPs as "recommendations" in their response to the SEC's RFI. Robinhood Fin., LLC, Comment Letter on Digital Engagement Practices (Oct. 1, 2021), https://www.sec.gov/comments/s7-10-21/s71021-9316498-260092.pdf [https://perma.cc/M4P9-HKXU]. Nevertheless, it has warned its investors in public securities filings of the very real possibility that it could be subject to Reg. BI, which would threaten its business model. Robinhood Mkts., Inc., Registration Statement (Form S-1) 45, 70 (July 1, 2020), https://www.sec.gov/Archives/edgar/data/1783879/000162828021013318/robinhoods-1.htm [https://perma.cc/GX6X-NAB5]. It is not entirely clear why Robinhood thinks Reg. BI would be so harmful to its business model. Application of Reg. BI to Robinhood's DEPs would not make those DEPs illegal, it would mean those DEPs would be subject to Reg. BI's requirement to disclose and mitigate conflicts of interest and not place its own interest ahead of its clients'. 17 C.F.R. § 240.15l-1(a)(1). Given that Robinhood claims that there are not any relevant conflicts of interest between itself and its clients, Robinhood Fin., LLC, Comment Letter on Digital Engagement Practices 5 (Oct. 1, 2021), https://www.sec.gov/comments/s7-10-21/s71021-9316498-260092.pdf [https://perma.cc/M4P9-HKXU] ("We do not believe there are conflicts of interest associated with our web- and app-based customer engagement that require additional regulatory action."), and that its DEPs are clearly beneficial for its users, *id.* at 9 ("[M]any of our digital features are designed to promote financial literacy and investment awareness and to provide customers with information they need and want in order to make informed and self-directed decisions about their future investment goals and needs."), application of Reg. BI should pose little threat to Robinhood's business. *See* Better Mkts., Comment Letter on Digital Engagement Practices 12–13 (Oct. 1, 2021), https://bettermarkets.org/wp-content/uploads/2021/10/Better_Markets_Inc._Comment_Letter_on_Digital_Engagement_Practices_RFI.pdf [https://perma.cc/C64H-266B].

over protecting actual investors.[259] Specifically, when adopting Reg. BI, the SEC credited self-serving industry arguments that applying a robust fiduciary standard to broker-dealers would threaten the broker business model, which would in turn reduce "access" and "choice,"[260] resulting in consumer harm, even though little evidence was presented for such arguments.[261] Meanwhile the SEC ignored and downplayed actual evidence of real, concrete harm suffered as a result of the widespread broker conflicts of interest it failed to address.[262]

Whatever it does with regard to DEPs, PFOF, and other issues raised by the GameStop trading frenzy, the SEC must not make this same mistake. Already, industry participants are making dubious, evidence-free claims about the supposed "benefits" of PFOF and DEPs to retail investors, all of which are abstract and/or fleeting,[263] and the harm that will befall investors if the SEC adopts strong rules. The SEC must not credit these claims unless backed by strong, credible, and independent evidence about real, concrete benefits retail investors gain from the status quo that might be threatened if it adopts strong, protective rules.

CONCLUSION

It is an unfortunate reality that the stock market is an unlevel playing field decidedly tilted against less-experienced retail investors. Those investors who try to make money by frequent trading in equities and options are going against professional experts with the best equipment and market information, against whom they cannot fairly compete. They are also competing in a needlessly fragmented marketplace—fragmentation that is created and exploited by powerful HFTs like Citadel to profit even more at the expense of retail investors.

Trading platforms that use predatory DEPs claiming to make trading

259. Better Mkts., Comment Letter on Proposed Rule Regulation Best Interest 8–9 (Aug. 7, 2018), https://www.bettermarkets.org/sites/default/files/Better%20Markets%20Comment%20Letter%20Reg%20BI%20%208-7-18%20Final.pdf [https://perma.cc/L9HP-HMZG].

260. "Access" and "choice" are, like "innovation," buzzwords often employed by industries trying to prevent strong regulations from being enacted. After all, who does not want more access or choice? However, the self-serving invocation of these terms is often used to mask the true harm to consumers and investors of products and practices that are profitable for the industry. For example, payday loans were an "innovation" that provide consumers "access" to loans and more "choices." Yet quite obviously these products, which trap consumers in an endless cycle of debt, are hardly beneficial for the people who take them out. *See* Better Mkts. Inc., Comment Letter on Payday, Vehicle Title, and Certain High-Cost Installment Loans, Docket No. CFPB-2019-0006, RIN 3170-AA80, 84 Fed. Reg. 4252 (May 15, 2019), https://bettermarkets.org/wp-content/uploads/2021/07/Better-Markets-CL-CFPB-Payday-Underwriting-Rescission-5-15-2019_0.pdf [https://perma.cc/9VFP-W6ZK].

261. Hauptman & Hall, *supra* note 232.

262. *Id.*

263. *See supra* Section IV.B.

"easy" and "enjoyable" do not level the playing field, but instead tilt it even more against retail investors, who are seduced onto the field and set up as easy marks. This makes it even easier for the likes of Robinhood and Citadel to extract profits from them, while shamelessly claiming that they are providing those retail investors with great benefits and execution. Taking from less-experienced investors, with relatively little money to lose, and giving to the likes of Robinhood's founders and the billionaire owners of Citadel cannot reasonably be considered the "democratization" of finance. Such conduct is not just a misuse of the Robin Hood legend; it is a perversion, if not a fraudulent practice or device. The SEC should reject such self-serving and blatantly baseless claims, and meaningfully regulate predatory DEPs and the PFOF kickbacks that incentivize platforms to use them.