The Impact of Robinhood's Retail Investing App on Investor Psychology and Financial Markets

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ABSTRACT

The pandemic has seen a dramatic rise in retail investing, with millions of individuals worldwide downloading trading apps such as Robinhood. Such trading apps have provided unprecedented access to commission-free investing for all, regardless of investing experience and financial literacy. This creates an ethical dilemma: while a moral society should provide universal access to opportunities for wealth accumulation, easy access to investing has the potential to do great harm to novice investors. The GameStop frenzy of 2021 is a prime example of the damaging effects of risky investing decisions, both on individual novice investors and on financial markets overall. In its November 2021 Financial Stability Report, the U.S. Federal Reserve specifically called out the dangers of social media-driven investing and speculation by retail investors, citing the hazards of market volatility for financial stability. This research will examine the history of retail investing, the societal factors and existing inequities that have led to the rise of retail investing, and the impact of retail investing on investor psychology and decision-making. The research finds that retail investing encourages herd behavior and impulsive decision-making, and leads to more attention-induced trading and negative returns. Retail investing also amplifies both positive and negative market movements. This research will then describe possible solutions to these challenges, to ensure stable and secure financial markets, wise financial decision-making on the part of individual investors, socially responsible and responsive trading apps, and ethical access to trading for all investors.

Background - the rise of the retail investor

Robinhood is a newly emerged retail trading platform and from a study conducted by the University of Groningen shows that in the post-pandemic era, the aggregate absolute change in holders of securities on Robinhood is more than five times higher than the pre-pandemic period. This is a shocking change and lead us to wonder why is there a such dramatic difference. The raise of retail trading definitely played a role here as people got more time to trade during the pandemic. In addition to that, the ease to trade on the Robinhood problem make the platform more prevalent. One interesting fact is that when you compare Robinhood to Vanguard, a very large and reputable trading platform, Robinhood has about $80 billion in assets under management while Vanguard has $7.2 trillion in assets under management. This is might symbol that the users of both platform have very distinct ways of trading. Both platforms offers zero commission fee, but Vanguard charges 1 dollar per contract for option trades. Furthermore, in terms of active users Robinhood has 16 million active users, and had 21 million active users at its peak during the GameStop frenzy, in contrast, Vanguard has 30 million investors. All these data shows that Vanguard is a more stable and robust company.

The Robinhood platform argues that they are democratizing investing. This has already been done years ago by Vanguard and Jack Bogle, who tried to make investing less expensive and safer. Their goal is to offer low-cost investing and to build wealth for their clients. Robinhood is not democratizing investing, Robinhood is making it easy to trade. Robinhood mainly focuses on the short-term investments, which helps traders to have a dopamine surge with in their mind. While long term trading will not offer such things. In addition, Robinhood added features to make investing more like a game. New members were given a free share of stock, but only after they scratched off images that looked like a lottery ticket which, in some perspectives, may be viewed as gambling, attention-induced trading is the term scholars use to describe this behavior.

In addition to that, Robinhood is also offering extended hour trading, which is a way of trading by going through electronic communication networks. It is quite different from traditional way of trading. Apart from that that also have a Top Movers and a Most Popular lists. A study from UCSC states that the top 0.5% of stocks bought each day lose 4.7% over the subsequent month. It is reasonable to wonder whether Robinhood can move market prices, given the relatively small amount of assets under management. (Robinhood $81 billion, Charles Schwab $3.8 trillion). However, it is important to remember that trades, not passive positions, move prices. While Charles Schwab may have a larger number of assets under management, Robinhood has more users (13 million Robinhood users vs. 12.7 million Charles Schwab customers). Robinhood users account for 30% of the daily trades from the largest brokerage firms catering to retail investors, so Robinhood users can absolutely move the market.

Robinhood herding events result in negative returns, which can lead to trading losses for many investors. Robinhood's business model relies on user data and payment for order flow. SEC considering rules to prevent payment for order flow, which will significantly affect Robinhood's business model and their profit structure. Payment for order flow means that Robinhood is incentivized to encourage investors to trade as much as possible. Robert Battalio and Tim Loughran suggest that "Finally, the examples suggest that market makers and other liquidity providers on the NYSE may have been making monopolistic profits before the requirement to provide real-time trade and quote information"(Battlio, Longhorn). However, this contradicts with the basic idea of trading broker, which is to offer their consumer the best price possible to their clients. There is a very cliche ethical dilemma existing here. Robinhood's stock price tumbled when the SEC announced that it was considering a ban on payment for order flow which shows the investor's confidence on Robinhood when it comes to making profit without payment for order flow. Today, payments for order flow barely survive based on the fact that people is trying to prevent trading with inside traders, which could potentially cause them to lose more. Payment for order flow originated with infamous Ponzi schemer Bernie Madoff, who lost billions of dollars of investors' money. Madoff developed payment for order flow in 1991. Another problem with payment for order flow is the types of securities being traded. Two-thirds of all payment for order flow comes from options trades, which are the most risky trades. Since payment for order flow means that Robinhood wants you to trade more, and trading more means that you will lose money, then ultimately Robinhood wants you to lose money by trading constantly. Trading Volume is an indicator of the likelihood of people losing money by making risky trades.

The trading volume on Robinhood platform is also way larger than other platforms, as statistics show: in the first quarter of 2020, Robinhood users "traded nine times as many shares as E-Trade customers, and 40 times as many shares as Charles Schwab customers, per dollar in the average customer account in the most recent quarter." More trades means more risks and more profit Robinhood could collect. Many users on Robinhood is doing day trades, which is considered to be a very risk way of trading. A study of day traders showed that only 3 percent of day traders actually make money, and less than 1 percent of day traders make above minimum wage; the longer an individual traded, the more money they lost. Furthermore, research has consistently shown that people who are very active in trading tend to underperform against the market as a whole.

Risk-taking behavior on Robinhood; Investor Psychology

Peer observation encourages risk-taking behavior and attention cues on the Robinhood platform drive investing decisions. The Robinhood platform offers a special form of stock which is "fractional share" buying encourages risk-taking behavior. Fractional shares are illiquid outside of Robinhood. This financial innovation allows the users to invest in securities that would normally be outside of their price range and will make the barriers to invest in these securities much lower. In addition, a mention of a security in the Top Movers list is associated with it being traded 36 times more than the amount that it is traded on average, even when controlled for overall market trading activity in the security. It is plausible to say that Robinhood is indirectly involved with stock manipulation. The closing price of a stock on Robinhood is significantly associated with herding behavior. "a higher price signals higher market value of a firm which in turn boosts the investor base of that security, thereby driving up the price. Positive feedback loops on Robinhood can contribute to financial bubbles. The price of a stock moves upward, which stimulates herding behavior and more stock purchases, which further drives the price of the security upwards, which induces more herding behavior. The result is a positive feedback loop and a vicious cycle. Fractional shares also contribute to bubbles by lowering the barriers to investing, and driving more herd behavior. These types of feedback loops are also present in the cryptocurrency market.

Trade volume and prices are significant contributors to herding behavior. An increase or decrease in stock price may be followed by a rush or flee of investors, respectively. Stock investments are driven by popularity over profitability; this warps capital allocation. A research suggests" Paranoid Style in American Investing", "Identity Investing" "It's the financial equivalent of buying lottery tickets." This caused Stock prices are completely detached from fundamental value. The theoretical underpinning of Wall Street, that markets will act efficiently, has been disrupted. Robinhood and other retail investing platforms can make ordinary people feel powerful; Robinhood rose in popularity during a pandemic when many felt desperate. Memes, in-group language foster a feeling of identity among risk-taking investors; there is a slippery slope between group identification and peer pressure. 2.5% of investors exhibit addictive gambling behavior; this is consistent with prior research showing that 2.6% of the U.S. population suffers from gambling addiction

Herd behavior on Robinhood

When individuals rely on internet searches to find financial information, they can fall prey to confirmation bias, meaning that they will not get the other side of the story. Information flows in social media-type platforms contain significant noise, and attention to a stock does not necessarily correlate with returns. There is a significant correlation between tweets and stock volatility and trading volume. Herd behavior is troubling because it means that a market can be manipulated just by messaging alone. As research indicates, "A few hundred bot (human) tweets posted at the right moment could potentially spark an increase of several percentage points in trading volume." A bot working in concert with a platform like Robinhood could readily manipulate the market.

Herd behavior can be difficult to predict, and depends on a combination of stock characteristics and trade outcomes for individual investors. Because investing on Robinhood is attention-driven, a social media and PR campaign could be devised to encourage investment in a company. Research have shown that social media participation are correlated with stocks performance (Fan, Talavera, Tran). It will affect a stock in many different areas, such as stock returns, volatility, and trading volume. These are favorable factors for platform to take advantages of. Robinhood users are tech-oriented and would be especially susceptible to such a strategy. "Companies could get a severe misvaluation, which over time could cause investors' money to evaporate." Hardcore AMC shareholders are obsessed with the idea that the mother of all short-squeezes (MOASS) will propel the stock to new, incredible heights. The stock has fallen more 50% since the June peak. In addition, Investors in Hertz, Kodak, and Nikola lost more than half of their investment. The more scarce the information about the company, the more likely it is that herding behavior will take place. This is troubling because it means that companies are incentivized to share little about their operations and performance. Because herding behavior means that investor behavior can be easily manipulated, in the same way that social media propagates self-enforcing algorithms. "The attraction of the herd's capital could be a legitimate method for upcoming companies to fund their operations or for third parties to profit from trading." This is why herding behavior is so dangerous Herding behavior is non-linear, which can also threaten stability of the financial system. "Fortune Favors the Brave" is the phrase crypto.com uses, while it is difficult for ordinary retail investors to spot predators; many crypto schemes are pump-and-dump and take advantage of naive and desperate investors. This is a recent risen issueaboutherdingbehavior.

Potential threats to financial stability and volatility

Moreover, today's most speculative assets are often interconnected — people who own Tesla also own Bitcoin; indeed Tesla owns Bitcoin — amplifying potential volatility. Across all adults in the United States, 16% have invested in cryptocurrency. Bank of America reports the number of its customers using cryptocurrency tumbled more than 50% to fewer than 500,000 since the market's highs in November. Robinhood is also transforming to expand their cryptocurrency business. According to statistics, 43% of men ages 18-29 have invested in cryptocurrency; 22% of women in the same age range have invested in cryptocurrency. Robinhood's involvement in cryptocurrency trading was initially lucrative and promising. Crypto transaction based revenue for the second quarter of 2021 was $233 million, up from just $5 million in the second quarter of 2020. However by the third quarter of 2021, crypto revenue at Robinhood was $51 million. Crypto revenue for Robinhood has remained in the range of $50 million per quarter since then.

Robinhood competitors and alternatives

The number of users of the commission-free trading app Robinhood grew steadily since 2014, even though the app did not officially launch until mid-2015. The number of users grew from half a million in 2014 up to 22.8 million as of March 2022. The app's net revenue did also grow steadily since its official launch, reaching 91 million U.S. dollars as of second quarter 2021. The number of users is dropping, and the average revenue per user is also dropping. Market capitalization has plummeted from a peak of 46 billion in August 2021 to 7.76 billion in May 2022. "From a sheer stock market valuation perspective Robinhood's 15.9 million active accounts are now valued at less than $500 per customer versus $3,600 per customer for Charles Schwab. When Morgan Stanley acquired E-Trade in 2020, the price was $13 billion which meant a value of about $2,500 per customer." Robinhood canceled plans to expand into the UK and Australia. UK does not allow payment for order flow. Robinhood defines a monthly active user as a "unique user who makes a debit card transaction, or who transitions between two different screens on a mobile device or loads a page in a web browser while logged into their account, at any point during the relevant month. A user need not satisfy these conditions on a recurring monthly basis or have a Funded Account to be included in MAU(Monthly Active Users)." Privately investors have suggested that Robinhood should bring in a more seasoned executive; the founder CEO Vlad Tenev may be viewed as a liability. Tenev cannot be forced out since he holds a controlling stake in the company. In June 2022, Robinhood stock price plummeted to the point that the company was worth less than its cash on hand. Stock analysts forecast that Robinhood will not become profitable within the next three years. Insiders including the chief legal and chief operating officer have already reported sales of shares to the SEC. If the SEC bans payment for order flow, Robinhood will no longer be a viable business model. Competition for Robinhood is on the rise. Lightyear is a trading app that provides multicurrency accounts, a feature that Robinhood does not have. Lightyear makes its money from foreign exchange fees, not payment for order flow. FTX is emerging as a competitor for Robinhood. FTX began as a cryptocurrency trading platform, but announced in July 2022 that it would begin offering no-fee stock trades. FTX will not engage in payment for order flow. FTX was founded by Sam Bankman-Fried, an early cryptocurrency trader, and has already acquired a 7.6% stake in Robinhood. FTX may partner with Robinhood in the future. Robinhood was too slow to diversify its revenue streams. It recently began offering a debit card, and is now planning to offer tax-advantaged retirement accounts but it may be too late.

Conclusions and recommendations

Eliminate payment for order flow, remove Top Movers list to reduce attention driven investing and herd behavior, provide more background on fundamentals to investors to enable wise investment decisions. These are the ways for Robinhood to become a more socially responsible company. Robinhood demonstrates that there is indeed a demand for commission free, convenient stock trading and investing. However, Robinhood also illustrates the dangers of a system that incentivizes trading through payment for order flow. Robinhood benefits whether its traders make money or lose money. Robinhood also illustrates the dangers of herd behavior and attention-driven investing, which threaten to destabilize the financial system and untether value from stock prices. We can learn that trading and investing can be democratized but it must be done in a responsible manner, in which investors are given an appropriate education to achieve financial literacy. Robinhood has tried to save its business using cryptocurrency, however, interest in cryptocurrency can lead to more herding behavior which can further destabilize the financial system. Therefore, the future of the company remains unclear, the user base is declining and the total assets invested are declining. Robinhood may have a future, but it may be as part of another company.

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