Summary: Retail Investors in the Pandemic

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Motivation and Research Questions

Retail investors' involvement in the stock market significantly increases after the outbreak of the COVID-19 pandemic in the spring of 2020. Using an algorithm that identifies marketable retail order flow in U.S. stocks (Boehmer, Jones, Zhang and Zhang 2021, BJZZ hereafter), we find the aggregate marketable retail trading volumes increase from $3.4 trillion (9% of market total volume) in 2019 to 6.8 trillion (11% of market total volume) after pandemic starts. Many contribute the rise of retail trading to the introduction of zero trading commissions brokerages, such as Robinhood, which attract young and unexperienced individual investors.

Given the heightened uncertainties during the pandemic, the significant increase in aggregate retail trading and the new mix of retail investors, our study concentrates on three research questions: how the new mix of retail investors contributes to price discovery; how they are related to market quality measures during the pandemic; how other market participants, such as short-sellers and high frequency traders, respond to increased retail trading.

Main Findings

We start by investigating how retail order flows are related to future stock price movements in the cross section. BJZZ examine the U.S. equity market between 2010 and 2015 and find overall signed retail order flows, or retail order imbalance *(buys minus sells)*, can predict future stock returns positively and significantly. Using a sample period between January 2020 and March 2022, we show that overall retail order imbalances still positively and significantly predict future daily returns. Economically, an interquartile increase in retail order imbalance is associated with 3.90 bps of higher return for the next day (9.75% annualized). The predictive pattern persists for the next twelve weeks and is robust across firms with different sizes and different turnover ratios. That is, the higher uncertainty during pandemic and the arrival of more inexperienced retail investors don't change the overall positive predictive pattern of retail trading for future stock returns.

We next examine how retail order activities are related to future market quality measures, such as liquidity and volatility, in the cross section. The pandemic brings a sharp market downturn to the U.S. equity market, together with higher volatility and lower liquidity. Our study finds that during the Pandemic, increases in overall retail trading activity *(buys plus sells)* are associated with higher effective spreads and higher volatility in the future. An interquartile increase in retail overall retail activity is associated with a 0.94 bps increase in effective spreads and a 0.64% increase in intraday volatility over the next day, indicating that overall retail activities might generally demand future liquidity and generate more uncertainty.

Given the findings above, how do other important market participants trade in response? We focus on two groups of relatively sophisticated investors: high frequency traders (HFT) and short-sellers (SS) and find the overall activity levels of retail investors are associated with significantly lower activity levels of both HFTs and SS's, as measured by cancel-to-trade ratios for HFT, and days-to-cover ratios for SS. It is possible that increased retail investors trading makes it harder for HFTs and SS's to trade profitably, and it is also possible that the lower market quality associated with heightened retail trading activity makes it less attractive for HFTs and SS's to trade.

Further Discussions

We examine the attention and information hypotheses of these predictive patterns. Using retail attention to proxy Google search volume index, we find that retail attention is significantly related to retail order flows, but its contribution to retail's predictive power for next-day returns is not significant. Instead, we provide evidence that retail order imbalance significantly predicts earnings news over longer horizon, suggesting that the retail flow might carry information regarding firm fundamentals.

Within 27 eventful months, we choose three subperiods: Covid-19 shocks, GME periods, and Ukraine war. We find the predictive power of retail order flow for future returns is significantly stronger for the outbreak of the pandemic, but weaker for the other two subperiods. Meanwhile, retail trading is associated with much higher future effective spreads for the outbreak of the pandemic, but lower for the GME episode, implying that retail traders presumably demand liquidity at the outbreak of the Covid-19, but possibly provide liquidity for the GME event.

Conclusions

Our study examines the trading patterns of retail investors in general, instead of the Robinhood sample, during the pandemic and provide an overall picture on how retail trading is related to future prices and market quality measures. Our unique and thorough findings, such as overall retail trading positively predicts the future stock return, higher retail activity is associated with wider future effective spreads and higher future volatilities, as well as lower activities of both HFTs and SS's, may provide significant references for future actions by practitioners, regulators and researchers.