Impact of Investor Behavior on Stock Returns during COVID-19: A Systematic Review of Global Academic Papers

Zhiyu Zhang*

Guang Hua Cambridge International School, Shanghai 200120, China

*Corresponding author: mgerson80073@student.napavalley.edu

Abstract. The COVID-19 epidemic has had a big impact on the world's financial markets and economy, inducing considerable volatility in stock markets as countries faced unprecedented challenges. This systematic review amalgamates findings from recent academic papers to scrutinize the nexus between investor behavior and stock returns during the pandemic across various global markets, including the USA, UK, China, and Southeast Asian regions. The analysis reveals that investor behavior during the pandemic was largely characterized by heightened traditional behavioral biases such as overconfidence and herding. Moreover, a notable trend was the regional variation in investor responses, influenced significantly by local factors and sentiments. The pandemic period witnessed a surge in herding behavior, especially in bullish markets in the USA and UK, and a negative correlation between Chinese, Japanese, and US markets for stocks and investor psychology. This review serves as a reservoir of critical insights for investors, market regulators, and policymakers, facilitating a deeper understanding of market dynamics during global crises and aiding in the formulation of robust strategies for future challenges.

Keywords: COVID-19; investor behavior; stock returns; financial volatility; economic disruptions.

1. Introduction

The COVID-19 pandemic's development in the final months of 2019 has been a turning point in modern history, impacting every aspect of human existence. Beyond its immediate health ramifications, the pandemic has catalyzed a series of economic disruptions, with stock markets across the globe witnessing unparalleled volatility. As nations confronted the multifaceted challenges posed by the health crisis, economic downturns, and escalating uncertainties, investor sentiments and behaviors underwent profound transformations, culminating in erratic stock market movements.

Both emerging and established markets felt the economic reverberations of the pandemic. The intricate relationship between investor behavior and stock returns, especially during such tumultuous times, became a focal point for market analysts, researchers, and policymakers. Traditional behavioral biases, such as overconfidence, herding, and loss aversion, which have been extensively explored in behavioral finance, appeared to intensify during this period. Furthermore, the pandemic presented an unprecedented scenario where these biases were juxtaposed against a backdrop of global uncertainty, rendering it a compelling domain of investigation.

Recent studies have expanded the understanding of this relationship, delving into specific regional markets like the USA, UK, China, and Southeast Asia, and highlighting nuanced investor behaviors in these regions. For instance, research focusing on Southeast Asian markets, including Indonesia and Singapore, has revealed distinct investor responses influenced by local factors and sentiments. Such insights underscore the importance of considering regional contexts in understanding the broader landscape of investor behavior during global crises.

This paper endeavors to systematically review the burgeoning literature on the COVID-19 pandemic's consequences for investor conduct and stock returns. By amalgamating findings from a diverse array of academic papers, we aim to discern prevalent behavioral patterns among investors and their subsequent implications on stock market dynamics across different global markets. Through this comprehensive review, we aspire to furnish valuable insights into the intricacies of investor psychology during crises and its overarching implications for global financial markets.

2. Research Methodology

To comprehensively understand the impact of investor behavior on stock returns during the COVID-19 pandemic, we adopted a systematic approach to review relevant research papers. The primary criteria for selecting these papers were the presence of specific keywords related to investor behaviors. Our search encompassed various sources, including written journals, symposium materials, drafts of papers, and other works that have been released.

Once the articles were collated, we categorized them in multiple ways to facilitate a structured analysis:

Biases-wise: Articles were grouped based on the specific behavioral biases they addressed, such as overconfidence, herding, or loss aversion.

Country-wise: By segregating the articles based on the country or region of study, we aimed to identify regional variations in investor behavior and its impact on stock returns.

Author-wise: Grouping articles by authors allowed us to recognize researchers who have made significant contributions to the field and to understand their perspectives and findings in depth.

This systematic and multi-faceted approach to categorizing and analyzing the articles ensured a comprehensive review of the literature, providing a holistic understanding of the topic at hand.

3. Results

The influence of COVID-19on the interaction between uncertainty variables and investors' behavioral proclivities was examined in depth by Oumayma Gharbi, Yousra Trichili, and Mouna Boujelbene Abbes, who also highlighted the intricacies of the current findings [1]. Their research, grounded in empirical evidence, underscores the long-term equilibrium dynamics among the examined variables, both pre and amidst the COVID-19 era. Explicitly, the findings reveal the pandemic's pivotal role in triggering abnormal returns within the US Fintech sector. Notably, during this health crisis, the Fintech market exhibited a subdued response to prevalent financial stress indicators. Furthermore, behavioral inclinations, predominantly the unusual actions of the US Fintech stock exchange was significantly influenced by overconfidence and herding, especially when juxtaposed against the pre-pandemic phase.

Ivy S.H. Hii, Xu Li, Haifeng Zhu delved into the profound effects of COVID-19 on China's economic and securities landscape [2], underscoring the need to comprehend investor dynamics amidst this turmoil. Four shareholder prejudices stand out as a result of their investigation, which is based on the investment habits of Chinese respondents during the pandemic: representation, overconfidence, disposition effect, and herding effect. Based on a quantitative methodology, the study collected data by addressing investors who actively trade on the both Shenzhen and Shanghai Stock Exchanges with digital surveys. Utilizing multiple linear regression techniques, the study evaluated the sway of behavioral biases on investment choices during the health crisis, highlighting how accuracy, attitude operation, and swarming tendency all have a significant impact on putting effort choices. This scholarly endeavor augments the behavioral finance domain, presenting empirical insights into the ramifications of behavioral biases on Chinese investors' decision-making during adversities, and advocates for financial entities to assimilate behavioral finance tenets into their risk mitigation strategies, thereby enhancing their grasp on Chinese investor conduct during tumultuous times.

Samina Riaz, Riaz Ahmad, Munawar Javed Ahmad delved into the factors shaping stock market investor dynamics in Pakistan amidst the COVID-19 pandemic [3]. Their study, which is based on information from a wide range of individual investors, had an outstanding participation percentage of about 86.5% from 167 participants. Explicitly, the findings underscore determinants such as aspirations for rapid wealth growth, aversion to financial setbacks, apprehensions of monetary losses, projected corporate profits and dividends, intuitive economic sentiments, historical stock performances of companies, majority shareholder perspectives, and advice from brokers and trusted peers. This scholarly endeavor offers insights into the dominant behavioral trends of investors, proposing avenues for the advancement of the Pakistan Stock Market.

Cheng Yan, Jinhua Zhang, Haojie Zhu, Baozhen Jiang, and Rui Shen investigated the substantial effects of the COVID-19 contagion on international monetary arenas [4]. Their exploration, titled “Investor Sentiment and Stock Returns During the COVID-19 Pandemic,” is anchored in the interplay between investor sentiment and stock yields during this health crisis. Grounded in the Baker and Wurgler (2006) sentiment index, the results show a negative relationship between return on equity and optimism among investors during the worldwide outbreak. This inverse relationship is notably accentuated for stocks characterized by elevated idiosyncratic volatility, diminutive size, and sparse institutional ownership. The conclusions highlight how the epidemic increased the influence of sentiment among traders on return on investment, particularly for stocks more vulnerable to sentiment-driven trading dynamics.

Elie Bouri, Riza Demirer, Rangan Gupta, and Jacobus Nel embarked on a study titled "COVID-19 Pandemic and Investor Herding in International Stock Markets," attempting to understand how investor herding behaviors have changed as a result of the COVID-19 pandemic [5]. They examined the interaction among pandemic-induced price swings and clustering across 49 foreign stock markets using an ordinary newspaper-based credit risk score linked to viral illnesses. Through the identification of herding instances and the application of probit models, a robust connection emerged between herd formation and COVID-19-induced market instability, especially pronounced in emerging and European PIIGS stock markets. This research underscores a direct correlation between the recent health crisis and global market participant herding, bearing significant implications for policymakers and investors. Herding behavior, in essence, reflects investors' propensity to emulate a majority group's actions, irrespective of personal insights. Such behavior, especially during heightened uncertainties like pandemics, can lead to rapid stock price shifts, potential overreactions, and subsequent valuation recalibrations.

Richard T. Ampofo, Eric N. Aidoo, Bernard O. Ntiamoah, Ophelia Frimpong & Daniel Sasu embarked on an empirical exploration titled "An empirical investigation of COVID-19 effects on herding behaviour in USA and UK stock markets using a quantile regression approach" [6]. Their study examines how the COVID-19 widespread has affected investor clustering behaviors in a pair of well-known markets: the USA and the UK. Harnessing daily stock index prices from specific durations, they employed the quantile regression approach alongside the OLS model to probe for herding patterns. The findings revealed an absence of herding pre-COVID-19 in both bullish and bearish terrains for the USA and UK. Yet, herding manifestations were evident in the bullish markets of both nations during the pandemic, with bearish herding solely detected in the USA during this period. This study offers pivotal insights for policymakers and investors, emphasizing the need for strategic portfolio management during crises. The paper underscores the COVID-19 pandemic's role as an external disruptor, amplifying market volatility and steering investors towards market sentiment over individual analysis, thereby intensifying herding effects.

Elie Bouri, Riza Demirer, Rangan Gupta, and Jacobus Nel in the paper titled "The Investor Psychology and Stock Market Behavior During the Initial Era of COVID-19: A Study of China, Japan, and the United States" examined the tremendous effects of the COVID-19 epidemic on the world, notably in terms of patients' and medical personnel's emotional resistance to duress [7]. The study, focusing on the Shanghai, Nikkei 225, and Dow Jones stock markets from January 20, 2020, to April 27, 2020, employed the primary element method to understand investor psychology and its influence on stock market behavior. The results showed a bad link between all three markets for shares and client mood throughout the epidemic, with negative emotions and pessimism discouraging financial investments. The research emphasized the prioritization of health and livelihood over wealth during the pandemic and highlighted the need for policymakers to devise strategies to combat COVID-19 and allocate appropriate budgets to the health sector.

Richard T. Ampofo, Eric N. Aidoo, Bernard O. Ntiamoah, Ophelia Frimpong & Daniel Sasu in the paper titled "Abnormal Returns on Indonesia Stock Exchange During Covid-19 Pandemic" investigated how the COVID-19 growing affected unusual price appreciation on the Indonesian Securities Exchange (IDX) [8]. Using data from 31 firms listed on the IDX between February and May 2020, the study discovered that the market-adjusted approach strongly influences aberrant stock returns prior to as well as following the implementation of social estrangement measures and the commencement of COVID-19. The study underscores the importance of understanding investor psychology during such events, with findings revealing a shift in priorities towards health and well-being over wealth and leisure. Additionally, the research touches upon the broader implications of the pandemic on global financial markets, emphasizing the impact of investor behavior and emotion on the price of shares, especially during times of heightened uncertainty.

Richard T. Ampofo, Eric N. Aidoo, Bernard O. Ntiamoah, Ophelia Frimpong & Daniel Sasu in the paper titled "Investor behavior under the Covid-19 pandemic: the case of Indonesia" began with the understanding that abnormal circumstances, such as the Covid-19 pandemic, compel investors to adopt protective measures on the stock sector. The Indonesian stock market saw a decline until April 2020 due to the pandemic's impact. The research examined the connection with risk and earnings in the Indonesian property system over this time combining profitable market principle, theory of prospects, and the concept of signaling. On the basis of information collected from 629 public companies and using association assessments, separate sample t-tests, with the Cohen test, the study discovered a significant association among systemic hazards and return on equity during the global outbreak, particularly for non-monetary industries. In the context of the Covid-19 pandemic in Indonesia, which is the findings support the aforementioned arguments, and the original Cohen analysis shows that the nation's market-stimulating measures during the pandemic were successful.

Romieo Romieo, Hesniati Hesniati, and Robin Robin, in their paper titled "Stock return during Pandemic Covid 19: a comparison between Indonesia and Singapore stock market"[9], give a thorough study of the Indonesian and Singaporean stock markets' current circumstances in light of the COVID-19 outbreak. Utilizing regression analysis, the study examines stock returns of companies listed on IDX and SGX. Due to their strong commercial relations and the substantial number of COVID-19 instances in Southeast Asia, the researchers chose these two nations. The results show that while the SGX is more impacted by an increase in COVID-19-related mortality, the IDX is more responsive to an increase in verified COVID-19 cases. The research investigation comes to the conclusion that COVID-19's effects vary among nations and may be influenced by cultural values and traits.

Fanyi Wang, Ruobing Zhang, Faraz Ahmed, and Syed Mir Muhammed Shah embarked on an in-depth examination of how investment choices affect the UK's bond markets in the midst of the COVID-19 pandemic [10], shedding light on the intricate relationships among various factors. The study, rooted in quantitative analysis and primary data from survey questionnaires, reveals the COVID-19's substantial reduction in ambiguity regarding the connections between risk awareness, overall risk compassion, and financial risk intolerance. The study comes to the explicit conclusion that the rate of prosperity has a critical role in determining financial risk tolerance, which is a critical psychological factor in financial decision-making. The study further unveils that the global financial market's adverse reactions to the pandemic have notably impacted business decisions, bringing about instability for investors. The results also highlight the beneficial effects of contentment on both general and financial danger acceptance, with the COVID-19's lack of certainty mitigating these connections. This comprehensive analysis not only provides valuable insights for policymakers in updating financial policies and stabilizing market operations but also offers implications for the public, aiding investors in navigating through the rising uncertainties and effectively managing financial planning actions during such unprecedented times.

4. Discussion

The COVID-19 pandemic has undeniably left an indelible mark on global financial markets. The studies reviewed in this paper offer a comprehensive insight into the intricate relationship between investor behavior and stock returns during this unprecedented crisis. Several key themes emerge from the literature:

4.1. Amplification of Traditional Behavioral Biases

The pandemic exacerbated traditional behavioral biases, including overconfidence and herding, influencing investor decisions significantly. For instance, the US and UK markets witnessed a surge in herding behavior during the pandemic, especially in bullish markets. Moreover, studies focusing on China, Japan, and the US highlighted a negative correlation between investor psychology and stock markets, emphasizing the role of negative emotions and pessimism in discouraging investments.

4.2. Regional Variations in Investor Behavior

The review underscores distinct regional variations in investor behavior during the pandemic. While studies on the US and UK markets highlighted a significant incidence of herding, research focusing on Southeast Asian markets, including Indonesia and Singapore, demonstrated sensitivity to the growth in COVID-19 instances and mortality, affecting return on investment in various locations differently. These findings accentuate the necessity to consider regional contexts and specificities in understanding investor behavior during global crises.

4.3. Herding as a Dominant Behavioral Pattern

Herding emerged as a dominant behavioral pattern during the pandemic, with investors tending to follow the majority's actions. This was particularly pronounced in the bullish markets of the USA and UK. The studies also highlighted the role of external shocks, such as the pandemic, in amplifying market volatility and steering investors towards market sentiment over individual analysis, thereby intensifying herding effects.

4.4. Consequences for Shareholders and Governments

The insights derived from the review hold substantial consequences for both policymakers and investors, emphasizing the necessity for strategic portfolio management during crises. Policymakers are urged to devise strategies to combat the adverse effects of the pandemic and allocate appropriate resources to vital sectors, including health. For investors, understanding these behavioral patterns can guide more informed and rational investment decisions, helping to navigate the complexities of global financial markets during crises.

5. Conclusion

The COVID-19 outbreak has exposed the nuanced relationship between the actions of investors and stock return, characterized by amplified behavioral biases and regional variations in investor responses. The review elucidates the significant role of herding behavior during this period, influenced largely by external shocks and market sentiments. As the world navigates the repercussions of the pandemic and prepares for potential future crises, the insights garnered from this research stand pivotal in understanding and maneuvering the intricate dynamics of global financial markets. The synthesis of these findings not only enriches the existing body of knowledge but also serves as a beacon guiding investors, market regulators, and policymakers in strategizing for future global crises, emphasizing the critical role of understanding investor psychology in these endeavors.

References

[1] Gharbi O, Trichili Y, Abbes M.B. Impact of the COVID-19 pandemic on the relationship between uncertainty factors, investor’s behavioral biases and the stock market reaction of US Fintech companies. Journal of Academic Finance, RED Research Unit, University of Gabes, 2022, 13(1): 101-122.

[2] Hiia I.S.H, Li X, Zhu H. Behavioural biases and investment decisions during COVID-19: An empirical study of Chinese investors. Institutions and Economies, 2023, 15(3): 81-103.

[3] Riaz S, Ahmad R, Ahmad M.J. The factors shaping stock market investor dynamics in Pakistan amidst the COVID-19 pandemic. International Journal of Disaster Recovery and Business Continuity, 2020, 11(3): 977-990.

[4] Jiang Baozhen, Zhu Haojie, Zhang Jinhua, Yan Cheng, Shen Rui. The profound ramifications of the COVID-19 pandemic on globalfinancial arenas. Front Psychol, 2021, 12: 708537.

[5] Bouri E, Demirer R, Gupta R, Nel J. COVID-19 pandemic and investor herding in international stock markets. Risks, 2021, 9(9): 168.

[6] Ampofo R.T, Aidoo E.N, Ntiamoah B.O, et al. An empirical investigation of COVID-19 effects on herding behaviour in USA and UK stock markets using a quantile regression approach. Journal of Economics and Finance, 2023, 47, 517-540.

[7] Naseem S, Mohsin M, Hui W, et al. The investor psychology and stock market behavior during the initial era of COVID-19: a study of China, Japan, and the United States. Frontiers in Psychology, 2021, 12: 626934.

[8] Budiarso N.S, Hasyim A.W, Soleman R, Zam I.Z, Pontoh W. Investor behavior under the Covid-19 pandemic: the case of Indonesia. Investment Management and Financial Innovations, 2020, 17(3): 308-318.

[9] Romieo R, Hesniati H, Robin R. Stock return during Pandemic Covid 19: a comparison between Indonesia and Singapore stock market. Jurnal Ekonomi Modernisasi, 2022, 18(1): 1-12.

[10] Wang Fanyi, Zhang Ruobing, Ahmed F, Shah S.M.M. Impact of investment behaviour on financial markets during COVID-19: a case of UK. Economic Research-Ekonomska Istraživanja, 2022, 35(1): 2273-2291.