An Empirical Analysis of Investor Behavior: A Post-COVID-19 Examination of Herd Behavior in the National Stock Exchange of India (NSE)

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Abstract

This research paper investigates investor behavior, specifically focusing on herd behavior, in the National Stock Exchange of India (NSE) during the post-COVID-19 period, from 2020 to the present. Utilizing daily closing prices of companies listed on the Nifty50, the study employs data sourced from the NSE website. In contrast to earlier research that demonstrated herding in developing economies, this paper adopts the methodology outlined by Christie & Huang (1995) to analyze the data.

The study finds no significant evidence of herding during the broader period of market stress in the NSE, suggesting a divergence from previous trends. The results suggest that Indian investors, despite operating in a volatile market environment post-COVID-19, exhibit rational behavior. Unlike some developing economies where herding behavior has been identified, Indian investors seem to rely on private information rather than imitating the actions of their peers.

Keywords - Herding, Nifty50, National Stock Exchange, Investor Behavior, Post-COVID-19, Market Stress, Rationality.

INTRODUCTION

In recent times, the study of investor behavior has become a focal point for portfolio managers, brokers, and academic researchers, as understanding investment behavior is integral to assessing market efficiency. The occurrence of major market crashes, bursts, and booms often stems from the irrational actions of investors, leading to questions about market efficiency. Herding, a form of irrational behavior, challenges the Efficient Market Hypothesis (EMH), which posits a rational perspective on investor decision-making. According to EMH, investors are assumed to possess complete information about the securities they intend to invest in, enabling them to make rational decisions and maximize returns. However, herding behavior involves mimicking the actions of others, deviating from market fundamentals. Investors tend to follow market moves under the belief that others possess superior information, contradicting the assumptions of the efficient market.

The Indian stock market, overseen by the Securities and Exchange Board of India (SEBI) and characterized by robust corporate governance, is expected to provide an environment where investors are well-informed and make rational decisions. Despite this expectation, instances of irrational behavior have been observed, with the 2008 market crash being a significant and recent example. As an open economy, the Indian stock market is influenced by foreign institutional investors and global market movements, further adding to the complexities of investor behavior. Numerous studies have identified behavioral

biases, such as loss aversion, overconfidence, optimism, and herding, contributing to market anomalies. Herding, specifically, has been identified as a major anomaly in emerging Asian economies like South Korea and Taiwan, making them comparatively less mature and riskier than developed economies. While some research has explored the presence of herding in various contexts, there is a scarcity of studies examining this phenomenon in the Indian scenario.

Against this backdrop, this study aims to investigate the presence of herding behavior in the National Stock Exchange of India, particularly focusing on the post-COVID-19 period. The COVID-19 pandemic has had a profound impact on global financial markets, creating unprecedented challenges and disruptions. Analyzing investor behavior after this crisis becomes crucial to understanding how external shocks may influence herding tendencies in the Indian stock market. By examining data post-COVID-19, this research seeks to contribute valuable insights into the dynamics of investor behavior in the National Stock Exchange of India during a period marked by heightened uncertainty and market volatility.

LITERATURE REVIEW

In the realm of financial research, numerous studies have been dedicated to the exploration of herd behavior in stock markets. This review delves into the existing body of literature, emphasizing the prevailing research landscape with a focus on developed economies such as the United States and Europe. However, a discernible gap emerges in the literature, specifically regarding investigations into herd behavior within developing economies, notably the Indian stock market.

A pivotal distinction in the literature lies in studies differentiating between herding in individual stocks and market-wide herding dynamics. Individual stock herding entails investors concentrating on specific securities while potentially disregarding others with analogous attributes. This dimension of research has been explored by scholars such as (Sushil et al., 1992), (Ghaffar, 2016), Lakonishok et al. (1992), (Sias, 1999), and others. These studies have provided insights into factors contributing to herding behavior among investors, including informational cascades, institutional investment, reputational concerns, compensation problems, psychological influences, and interpersonal communication issues.

A complementary aspect of the literature investigates market-wide herding, wherein investors collectively follow market trends and mimic the actions of their peers. This facet of research has yielded mixed results across various financial markets and scenarios. Positive findings have been reported by researchers such as (Dhall & Singh, 2020; Satish & Padmasree, 2018), Chang et al. (2000),(Lindhe, 2012), and (Prosad et al., 2012), highlighting instances of herding during different phases of the market. In contrast, conflicting results have been documented by (Demirer et al., 2010), who observed negative responses.

Notably, the literature review underscores the scarcity of studies dedicated to the Indian stock market, particularly within herding behavior. While extensive research has been conducted in developed economies, a shortage of investigations exists regarding the dynamics of herd behavior in the context of developing economies, specifically India. This literature gap serves as a foundational motivation for the current study, which aims to contribute valuable insights into the presence or absence of herding behavior within the National Stock Exchange of India during the post-COVID-19 period.

In summary, the existing literature provides a comprehensive understanding of herding behavior, delineating its manifestations in individual stocks and market-wide dynamics. However, the identified research gap highlights the need for a nuanced examination of herding behavior within the unique context of the Indian stock market, a void the current study seeks to address.

STUDIES WITH A POSITIVE RESPONSE TO HERDING BEHAVIOR

The literature extensively explores the phenomenon of herding behavior in various financial markets, with numerous studies presenting evidence of investors aligning their decisions with the actions of others. Ferruz and Vergas define herding as a situation where investors alter their investment decisions to conform to the behavior of their peers, even when their personal information suggests an alternative course of action. Christie and Huang (1995) assert that investors are more likely to subdue their individual beliefs in favor of consensus during extreme market movements.

Choe identify instances of herding in the Korean stock exchange during the crisis period of 1997, while Nofsinger and Sias (1999) report similar findings in the US market. Chang et al. (2000) associate significant evidence of returns dispersion with herding, suggesting that flawed decision-making contributes to price volatility and weakens the financial system. Kim and Nofsinger (2005) observe herding in the Japanese stock market, particularly during bullish market conditions.

Demirer and Kutan (2006) discovered herding in small-cap companies and among a substantial number of retail investors in the non-financial sector. Guo and Shih examine herding in the Taiwan stock market, emphasizing more pronounced herding in high-tech companies compared to traditional industries. (Fu, 2010) identify herding behavior during extreme downward price situations. (Lao & Singh, 2011) find evidence of herding in both the Indian and Chinese markets.

Jeon and Moffet (2010) report similar findings in their study of the Korean stock market, while (Hadiwibowo, 2010) specifically notes herding during financial crisis periods but not in normal market conditions. Belhoula Naoui (2011) observes that all investors do not collectively react to new information. Lee et al. (2012) document herding in the Chinese stock market, while Yao et al. (2014) investigate herding behavior in China's A and B share markets.

Focus on the Indian stock market, finding evidence of herding behavior during extreme price movements and crisis periods but not during normal market conditions. (Cakan & Balagyozyan, 2016) extend the exploration to the Turkish stock exchange, discovering significant herding in various sectors, including finance, technology, and services, particularly in highly volatile markets.

STUDIES WITH A NEGATIVE RESPONSE TO HERDING BEHAVIOR

Contrary to studies that provide evidence supporting herding behavior, several researchers have reported negative responses in different stock markets. Lakonishok et al. (1992) found no evidence of herding in pension fund stocks in the Indian stock market. Similarly, Demirer and Kutan (2006) observed no signs of herding in Chinese stock markets. Javed et al. (2013) reported a negative response to herding in the Karachi stock market.

Gleason et al. (2003) found no indications of herding in the American stock market, particularly during extreme market fluctuations. Christie and Huang (1995) did not identify herding in NYSE and Amex firms. Chang et al. (2000) discovered a significant positive response to herding in South Korean and Taiwan markets through the development of a nonlinear model, but no evidence was found in the USA, Hong Kong, and Japanese markets. Gleason et al. (2004), utilizing intraday data from the American Stock Exchange, found no evidence of herding among sector Exchange Traded Funds (ETFs). (Henker et al., 2006) found no herding in the Australian stock market.

Lakshman et al. (2011) observed that market-wide herding in Indian stock markets is not notably severe. They concluded that Foreign Institutional Investors (FIIs) do not significantly impact herding, while Mutual Funds increase herding. Additionally, they found that Nifty returns have no impact on herding.

Prosad et al. (2012) examined the effect of herding in the Indian equity market using Nifty50 data and found no evidence of severe herding in the Indian stock market, except during the bull phase. (Garg & Gulati, 2013) found no significant herd pattern in Indian stock markets.

In light of the above studies reporting negative responses to herding behavior, the present paper aims to contribute to this discourse by examining the existence of herding in the National Stock Exchange of India.

REASONS BEHIND NO HERD BEHAVIOR

Several factors may contribute to herd behavior in the Indian equity market:

1. **Market Sentiment**: Investor did not show emotional sentiment which plays a crucial role in driving market movements. When investors perceive a positive or negative sentiment prevailing in the market, they may tend to follow the crowd, leading to herd behavior.
2. **Behavioral maturity**: Indian investors have shown maturity in terms of investments and are clearly not susceptible to various cognitive biases, such as fear of missing out any kind of investments, profit booking and loss aversion. These shows no herd behavior as investors do not rush to buy or sell stocks based on the actions of others rather than their own rational analysis.
3. **Market Structure**: The structure of the Indian equity market, including the presence of institutional investors, mutual funds, and retail investors, can influence herd behavior. Institutional investors, in particular, may have a significant impact on market movements due to their large trading volumes.
4. **Regulatory Environment**: Regulatory measures and interventions by authorities can influence investor behavior and mitigate or exacerbate herd behavior in the market.

RESEARCH OBJECTIVE

This study seeks to examine the presence of herding behavior in the National Stock Exchange of India, focusing on data collected post-COVID-19.

RESEARCH METHODOLOGY

Data Collection

To fulfill the research objective, data has been diligently gathered from the National Stock Exchange (NSE) official website. The dataset specifically encompasses companies listed on the NIFTY50 during the post-COVID-19 period. Notably, this meticulous approach ensures that the study's findings reflect contemporary market conditions.

Calculation of Cross-Sectional Standard Deviation

The daily closing values of the selected companies post-COVID-19 form the basis for calculating the cross-sectional standard deviation. This statistical measure aids in quantifying the dispersion in returns among different companies, providing valuable insights into market dynamics in the aftermath of the global pandemic.

$$CSSD_t = \alpha + \beta_1 D^L{}_t + \beta_2 D_t^U + e_t$$

Market Return and Dummy Variables

The closing values of the NIFTY50 index, obtained directly from the NSE website, contribute to the calculation of market returns. This essential variable plays a pivotal role in computing dummy variables, denoted as D^U and D^L signifying the upper and lower limits of return dispersion. These dummy variables are crucial for discerning potential herding behavior in the post-COVID-19 market environment.

In essence, the research methodology is specifically tailored to leverage data collected from the NSE website, ensuring the relevance of the study's insights to the unique market dynamics witnessed in the aftermath of the COVID-19 pandemic.

RESULTS

Table 1 presents the cross-sectional standard deviation descriptive statistics. For the years 2019 through 2023, the average daily return of CSSD was 0.0162, with a minimum of 0.05 and a maximum of 0.95. For the 1239 observations made throughout the research period, the standard deviation was 0.0073. The model predicts that the presence of herding will be indicated by statistically significant negative values of β1 and β2 in the equation. Positive β_1 and β_2 readings indicate that there is no herding in the Indian stock market (NSE).

Table - 1

Mean	0.02
Median	0.01
Maximum	0.95
Minimum	0.05
Std. Dev.	0.01
Skewness	4.77
Kurtosis	50.04
Observations	1239

Daily CSSD Post-COVID – 19

Table - 2

	Coefficients	*Standard Error*	*t Stat*
Intercept	0.015	0.0002	76.22
β_1	0.01	0.0008	11.85
β_2	0.01	0.0008	11.03

Regression results

CONCLUSION

We did not find any evidence of herd behavior among investors, based on our empirical analysis of investor in the National Stock Exchange of India, following the COVID-19 pandemic. Despite the wide disruption and volatility caused by the pandemic, investors in the National Stock Exchange did not have a strong tendency to follow other people's actions without exception.

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