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A Review of Herding Behavior in Capital market

Suman, Monika
Research Scholar, Department of Commerce, Chaudhary Devi Lal University, Sirsa
Research Scholar, Department of Commerce, Chaudhary Devi Lal University

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ABSTRACT
This paper's objective is to provide an analysis of the theoretical and empirical data on herding behaviour in the capital market. More than two decades of empirical and theoretical research have gained a strong understanding of investor herding behaviour. The discussion shows that there are still unresolved questions and areas with conflicting information, such as the author's limited knowledge of markets other than the equities market. The study may require empirical methods that take into account herding's present shortcomings
KEYWORDS:- HerdingBehavior, Capital market, literature review.

I. INTRODUCTION

The concept of herding is addressed in a broad spectrum of fields, including neurology, zoology, sociology, psychology, economics, and finance. In general, when we use the terms "herding" or "herd behaviour" in economics and finance, we refer to the process in which economic agents imitate one another's actions and/or base their judgements on those of others. This behaviour may have a variety of explanations. Investors may react to the arrival of fundamental information, market participants may infer information from the actions of previous participants, analysts may herd to protect their reputations, institutional investors may herd for reasons related to compensation, investors may simply be irrational, and herd behaviour can result from psychological and/or social conventions. Herding is claimed to provide efficient outcomes, but other economists contend that it can also cause price instability and bubble-like outbursts in the financial markets. A brief summary of the theory and empirical data on herding behaviour in financial markets is provided in this essay, along with a list of unresolved questions and theoretical gaps. The topic raises a lot of issues. First, there are two broad categories of theoretical models that have been put out to explain herding behaviour in financial markets: those that assume rational or nearly rational actors and those that assume non-rational conduct. There is a shortage of theoretical models that take into account the interaction of different herding causes. Many models also produce results that are challenging to experimentally assess using current resources.

Second, there is conflicting empirical evidence. For instance, whereas numerous significant studies uncover scant evidence of institutional investor In contrast to several research that reveals evidence consistent with analyst herding for a variety of reasons, the results of more recent studies suggest that analysts "anti-herd," whereas many major studies find limited evidence of institutional investor herding. Third, the primary empirical approaches to measuring herding have constraints that may prevent economists from completely comprehending the herding process.

II. LITERATURE REVIEW

Avery & Zemsky (1998) study the relationship between asset price and herd behavior, which occurs when traders follow past trade trends. The authors conclude that more complex information structures can lead to herd behaviors and that a sufficiently complex information structure makes price bubbles possible. multiple dimensions of uncertainty can "overwhelm" the price mechanism during some stretches of trading. Then, interesting short-run behavior such as herding, price bubbles, and contrarian behavior-become possible. **Bharti & Kumar (2021)** investigates the behavioral bias of market-wide herding in the Indian equity market during the spread of the COVID-19 pandemic. They also examine the impact of market volatility and government response on the herding. The result obtained reveal significant herding in the Indian equity market that is aggravated by market volatility. The authors found that the government

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response and control measures implemented are successful in reducing herd behavior. **Bikhchandani& Sharma (2000)** provide an overview of recent theoretical and empirical research on herd behavior in financial markets. It looks at what precisely is meant by herding, the cause of herd behavior, the success of existing studies in identifying the phenomenon, and the effect that herding has on financial markets. the evidence suggests that investment managers do not exhibit significant herd behavior and that the tendency to herd is highly correlated with a manager's tendency to pursue momentum investment strategies. Whether such positive feedback or momentum strategies are efficient depends on how fast new information is incorporated into market prices. **Blasco, Corredor&Ferreruela (2017)** tested whether investor herding intensity increases significantly during crisis periods. They also measure herding behavior's impact on volatility during bullish and bearish extreme market periods. Additionally, the authors consider that studies of the influence of human behavior on financial markets is of great interest in that they help to understand market reactions that cannot be explained by fundamentals. The authors conclude that during extreme days, investors follow each other more intensely than when the market is calm or merely bullish/ bearish, but that the effect is not homogenous. they observe an asymmetrical effect of herding on volatility. When the market is undergoing extreme falls in prices, herding affects volatility more than on nonextreme days. However, investor herding behavior has a lesser influence on volatility during extreme market rises.**Bohl, Branger&Trede (2017)** challenge the often-implemented herding measure by Chang, Cheng, and Khorana (2000). They regress the cross-sectional absolute deviation of returns on the absolute and squared excess market return. A coefficient on the squared excess market return significantly smaller than zero is interpreted as evidence for herding. However, the authors show that the true coefficient is positive under the null hypothesis of no herding. Hence, their test is biased against finding evidence in favour of herding. Empirical examinations for the S&P 500 and the EuroStoxx 50 confirm the misleading implications of Chang, Cheng and Khorana's measure, while our modified test provides clear-cut evidence for herding behaviour. **Bui, Nguyen & Nguyen (2018)** provides three main contributions to investor behavior literature in frontier stock market, specifically the Vietnamese stock market. First, the study found the evidence of herd behavior in Vietnam, a frontier market, in both industry and market contexts. Second, the results show that investor herd behavior is driven by both up and down-market scenarios. Third, the study observes that U.S. stock market affects herd behavior in the Vietnamese stock market. However, the Hong Kong stock market only impacts market information. **Chang &McAleer (2020)** argue that the literature has concentrated on empirical studies of herding behavior in finance, but not in renewable energy. Their study fills the gap by investigating herding in renewable energy, using daily closing prices in renewable and fossil fuel energy stock returns in the USA, Europe, and Asia, for March 24, 2000–May 29, 2020, which covers the Global Financial Crisis (GFC) (2007–2009), the coronavirus crises of SARS (2003). And the ongoing COVID-19 (2019–2020) pandemic. Their results suggest that after the GFC, investors are more sensitive to asset losses, so they will be more likely to display herding in the stock market. However, during SARS and COVID-19, investors panicked so they may unwisely sell their assets. There are strong cross-sector herding spillover effects from US fossil fuel energy to renewable energy, especially before the GFC, while the US fossil fuel energy market has a significant influence on the Europe and Asia renewable energy returns during COVID-19. During SARS, which was not a pandemic, US fossil fuels only had an impact on US renewable energy returns. **Christie and Huang (1995)** developed CSSD (Cross-Sectional Standard Deviation) method to analyze the herding behavior in the stock market. They observe that the market alternates between normal and extreme market scenario and herding exist in the extreme market phase only. They infer that when investors follow the cumulous market movement and neglect their judgment (herding), individual asset returns will not deviate much from overall market returns. Consequently, the value of CSSD gets reduced.**Chang, Cheng & Khorana (2000)** enhanced the study of (Christie & Huang, 1995) and evolved a new approach CSAD (Cross-Sectional Absolute Deviation) to detect herd behavior. In their paper, they used a less drastic method that is based on a non-linear regression model. They detect herding behavior in five different international markets was- the U.S., JAPAN, HONG-KONG, TAIWAN, and SOUTH KOREA, in their result they found partial evidence of herding in Japan but Taiwan and South Korea show a significant amount of herding and the finding of U.S. stock market consists with the result of Christie & Huang (1995).**Chiang & Zheng (2010)** ameliorate CCK (Chang, Cheng & Khorana, 2000) method. They observe that CCK'S method is

derived from the condition version of the capital asset pricing model (CAPM). For analyzing herding in the international market, they follow the method of Christie and Huang (1995) and Gleason et al (2004) to estimate beta in their method. So that we can avoid the possible specification error which is associated with a single-element Capital asset pricing model. This paper highlights many shortcomings of the CCK's study and method and fulfilled them in this study. They include 18 global countries for detecting herding behaviour in international markets and find vindication of herding in the advanced stock market (sans US market) and the Asian market. They conclude that Stock return dispersion of the US Stock market plays a prominent role in defining the herding behaviour in the non-US markets. This study also finds that herding exists in both the bull and bear phases of the market except in the Latin American and US market.**Chauhan & Ahmad (2020)** study the presence of herding in the Indian stock market separately for large-cap and small-cap stock. They take daily data from NSE nifty hundred and used CSAD (cross-sectional absolute deviation) method. In their study they observe that herding propensity is a priced risk factor in large-cap stocks; however, the same does not hold for small-cap stocks for several reasons.**Demirer, Kutan& Chen (2010)** has given three main contributions to the literature on investor herds. First, it extends investor herding studies to an emerging yet relatively sophisticated Taiwanese stock market at the sector level by using firm-level data. Second, it employs different methodologies designed to test the existence of investor herds to better understand the sources of herd behavior. Third, it discusses the implications of different herding measures for investors exposed to systematic and unsystematic risks. We find that the linear model based on the cross-sectional standard deviation (CSSD) testing methodology yields no significant evidence of herding. However, the non-linear model proposed by Chang et al. (2000) and the state space-based models of Hwang and Salmon (2004) lead to consistent results indicating strong evidence of herd formation in all sectors. We also find that the herding effect is more prominent during periods of market losses. Our results suggest limited diversification opportunities for investors in this market, especially during periods of market losses when diversification is most needed. Further research is necessary to see whether similar findings hold for other emerging markets. **Devenow& Welch (1996)** briefly described several papers on the economics of rational herding in financial markets. They identify that some models can predict perfect herding, in which rational agents all act alike without any countervailing force. In fact, empirical financial research has concentrated on price (or investment) patterns only, primarily because this data is easily available. But, instead of concluding that a particular pattern looks too volatile and thus that this is evidence of herding. in this paper, the author has told that good tests of herding require data on how investors communicate with one another. Communication channel traffic needs to be directly measured. **Devi &Punniyamoorthy (2020)** analyse the herding behaviour of the different sets of portfolios such as high beta portfolio, medium beta portfolio and low beta portfolio formed on the basis of the magnitude of the beta values of capital asset pricing model. The presence of herding behaviour is analysed using the daily data of the companies listed on the Bombay Stock Exchange from April 2006 to March 2017. The authors in this paper illustrate that a high beta portfolio exhibits no herding behaviour but medium and low beta portfolio shows significant herding behaviour. Consistent with the previous studies, the asymmetric response of herding behaviour also varies with the volatility of stocks. **Economou, Kostakis&Phillippas (2011)** provides comprehensive evidence testing for the existence of herding effects in the Portuguese, Italian, Spanish and Greek market. They also examine the potential asymmetries of herding effects with respect to the sign of the market return, trading activity and volatility. A novel feature of this study, with implications for financial stability in the Eurozone and international portfolio diversification, is to examine whether the cross-sectional dispersion of returns in one market is affected by the cross-sectional dispersion of returns in the rest three markets. They found that herding effects are present mainly in the Greek and Italian markets. They also found that herding effects present significant asymmetries when considering rising and falling markets, days with high and low trading activity and volatility. A key finding of their study that is of particular importance for both international investors and policymakers is that there is a great degree of co-movement in the cross-sectional returns' dispersion across these four markets. **Economou, Hassapis&Philippas (2018)** examine herding in three developed stock markets testing for the impact of investors 'fear' on herding estimations. They investigate asymmetric herding behaviour under different market states and sub-periods. The stock markets under examination provide comparable implied volatility indices which are used as a proxy for fear. As a result, apart from the standard herding estimations within

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and across markets, the authors also augment the benchmark model with the fear indicator. their empirical results document the statistically significant impact of fear on herding estimations. Moreover, there is evidence of cross-market herding as well as evidence of herding in the UK during specific sub-periods. **Gabbori&Awartani (2020)** investigate the influence of oil market volatility and hand-picked OPEC meeting data on herding tendency in the Saudi equity market. their results show the presence of significant herding behaviour in the Saudi market; surprisingly this herding behaviour is independent of oil market volatility. Importantly, they find herding on and around the OPEC meeting days however this is only limited to a period of high global uncertainty that is, during the Global Financial Crisis period (GFC) of 2008–2010. their results show that this tendency has originated during the GFC, has persisted in the post GFC in Saudi equities and surprisingly, is largely found absent in the periods when the Saudi equity market witnessed bullish market conditions. **Garg & Gulati (2013)** examines the presence of herd behavior in Indian stock market in extreme market conditions using data from the National Stock Exchange. Empirical results based on daily, weekly, and monthly data indicate that during periods of extreme price movements, equity return dispersions tend to increase rather than decrease, hence providing evidence against the presence of herding in the Indian stock market for the years 2000–2013. Even no evidence of herding is found during the extremely high and extremely low trading volume days. Owing to the regulatory reforms of the Indian equity market and the intense presence of the foreign institutional investors, investors' behavior seems more rational, that validates the application of rational pricing models in the Indian stock markets. **Gebka&wohar (2012)** investigate the existence of herding in the global equity market by applying a methodology which utilizes cross-country dispersion in index returns. An analysis of national indices worldwide unveils virtually no instances of global information cascades, as price patterns largely adhere to the predictions of the rational pricing models. However, some sector-specific indices reveal price patterns indicative of traders' irrationality, especially in basic materials, consumer services, and oil and gas. This can be driven by a group of investors following each other in and out of markets, overconfidence, or excessive flight to quality. These irrational patterns decline over time. **Hsieh (2013)** investigated the herding behavior of institutional and individual investors in the Taiwan stock market by using high frequency intraday data. Their study found evidence of herding by both investors but a stronger herding tendency among institutional than among individual investors. Institutional investors herd more on firms with small capitalizations and lower turnovers and they follow positive feedback strategies. By contrast, individual investors herd more on firms with small sizes and higher turnover, and they crowd to buy (sell) stocks with negative (positive) past returns. The author's findings suggested that the herding of institutional investors speeds up the price-adjustment process and is more likely to be driven by correlated private information, while individual herding is most likely to be driven by behavior and emotions.**Hwang & Salmon (2007)** proposed a new non-parametric measure of herding, beta herding, based on linear factor models and applied it to investigate the nature of herd behaviour in the US, UK, and South Korean stock markets. Their measure is based on the cross-sectional variation of market betas hence the authors considered what might be called beta herding and herding towards the market index. They found clear evidence of beta herding when the market is evolving smoothly, either rising or falling, rather than when the market is in crisis. Authors found that crises appear to lead investors to seek out fundamental value rather than herd. They examined the relationship between market wide sentiment and beta herding and showed that there are separate forces at work. **Lao & Singh (2012)** assessed the herding behavior in the Chinese and Indian stock market and found the indication of herding behavior in both markets. They conclude that when the market is falling and the trading volume is high in the Chinese Equity market then there was greater evidence of herding. But in Indian equity market, they found evidence of herding during an upturn in market trends. They conclude that there is the necessity of stronger governing bodies and stringent stock market regulation in the Chinese market.**Luo and Schinckus (2015)** calibrate the impact of US market on herd behaviour in Chinese Stock Market. They observe six years daily return data from Shanghai and The Shenzhen Stock Exchanges. It also used the methodology of Chang et al (2000) and conclude that there is no contagion effect between Chinese and US stock market, although the Chinese financial market influence by the US Stock Market. It also implicates the reason that the structure of these two markets is different. Govt can easily interfere in Chinese Stock Market in disrupt situation whereas the US Markets are independence of govt.**Satish &Padmashree K, (2018)** Inspecting the herding behaviour in the

Indian stock market in the market wide sense, that was the standard behaviour of all investors in the equity market for the same portfolio. They take daily and weekly observation of fifty stock listed in the NSE. The methodology that they used was CSAD (cross sectional standard deviation) developed by Cheng, Chang & Khorana. In their findings herding was not exist in Indian stock market for a long period. They also detect herding behaviour in the pre-financial crisis period, post financial crisis period during crisis period and found that herding was absence on all these time periods.**Mishra & Mishra (2021)** argued that the stock market showed return volatilities primarily due to the unexpected investor's behavior. They found evidence of presence of herding for public sector banking and financial service under the bull market condition during the pandemic in the 90^{th} quantile of the return distribution.**Prasad, Kapoor &Sengupta (2012)** examined the existence of herding in condition of extreme market stress on the market as a whole and the bull and bear phase of the market individually. They used both the CH model and CCK model and found no existence of herding in the Indian stock market as a whole but it exists in the bull phase of the market.**Warne &Suman (2022)** The present study examines the evidence of herd behavior of investors in the Indian stock market during extreme volatility, i.e., bull and bear phases. It also investigates herd behavior during the first and second waves of the Covid-19 pandemic. The findings present evidence of herd behavior during the first wave of the pandemic, while there is no evidence of such behavior during the second wave. Further, the study concludes that investors mimic the investment behaviour of others in an extremely high return period only. There is no indication of herd behaviour in extremely low return period and in the whole sample period.

III. CONCLUSION

This paper reviews several empirical as well as theoretical research on herding behaviour in capital markets.The findings point to a lack of considerable herd behaviour among investment managers and a strong correlation between that inclination with a manager's propensity for momentum investment techniques. The effectiveness of these momentum or positive-feedback tactics depends on how quickly new information is reflected in market pricing.It is necessary to conduct more empirical research on emerging markets, where there is more likely to be a tendency to herd, according to the findings. Information cascades and reputational herding are more likely to occur in these markets where the environment is generally opaque due to weaker reporting requirements, lower accounting standards, lax enforcement of rules, and expensive information gathering. Moreover, momentum investment tactics may be more successful because knowledge is likely to be revealed and assimilated more gradually.

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