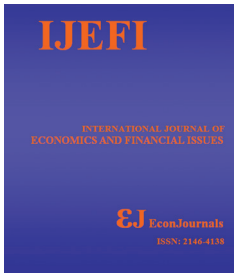

International Journal of Economics and Financial Issues

ISSN: 2146-4138

available at http: www.econjournals.com

International Journal of Economics and Financial Issues, 2022, 12(4), 40-46.

Herd Mentality Amongst Equity Investors During COVID-19: Evidences from Saudi Arabia

Faisal Alnori[1]*, Moid U. Ahmad[2]

[1]Faculty of Economics and Administration, Department of Finance, King Abdulaziz University, Jeddah, Saudi Arabia, [2]Department of Finance, University Business School, Chandigrah University, India. *Email: falnore@kau.edu.sa

Received: 02 April 2022 **Accepted:** 20 June 2022 **DOI:** https://doi.org/10.32479/ijefi.13192

ABSTRACT

The behaviour of individual equity investors during pandemics needs to be probed for better decision making. This study investigates the herd mentality amongst equity investors in Saudi Arabia in the context of COVID-19 (March 2020 to June 2021). The study is based on 326 responses and uses regression analysis as the anchor analytical technique. Additionally, the interaction of herding behaviour is probed in relation to overconfidence, emotions and independent decision making through a moderation analysis. The study found a negative moderating influence of age, gender and level of education on the herding behaviour of individual equity investors.

Keywords: Equity investor, Behavioural Finance, COVID-19, Herd Mentality
JEL Classifications: G40, G41, J10

1. INTRODUCTION

The implications of the COVID-19 pandemic has spread across the world, putting the global economy under stress and hurting the financial markets. Behavioural finance studies suggest that herding behaviour is more widespread during times of economic uncertainties and market stress (Espinosa-Méndez and Arias, 2021). Accordingly, there is an emerging strand in the literature that examined the influence of the recent COVID-19 pandemic on herding behaviour (Bouri et al., 2021; Dhall and Singh, 2020; Espinosa-Méndez and Arias, 2021a; Espinosa-Méndez and Arias, 2021b).

The role of behavioural factors, in investment decisions, is a controversial issue among equity managers, investors and academics (Jagongo and Mutswenje, 2014; Khawaja and Alharbi, 2021). Herding mentality is important behaviour factors that occurs when investors mimic other investors' decisions without considering proper analysis and valuations (Dhall and Singh, 2020). Herding behaviour generates stock prices volatility and results in pricing inefficiency in the financial markets (Bouri et al., 2021; Demirer et al., 2019).

The financial market in Saudi Arabia is the largest in the middle East and north Africa (MENA) region. Recently, the government of Saudi Arabia performed significant reforms to enhance the development of the financial market, such as the liberalization of the capital market for foreign investors (Alnori, 2020). The FTSE index provider upgraded the Saudi financial market to emerging market status. From an economic perspective, Saudi Arabia's economy is a G20 economy and the largest exporter of crude oil (Alnori, 2020; Alnori and Alqhtani, 2019). Therefore, the current study chooses the Saudi financial market, which functions in an oil-driven economy, to investigate herding behaviour amongst equity investors during the COVID-19 pandemic.

Existing literature, which examined the role of COVID-19 on herding behaviour, overlooked three critical issues. First, there has been limited study of the role of the COVID-19 pandemic on

herding behaviour in the context of an oil-driven economy, such as Saudi Arabia. Second, most prior studies, which examined the role of COVID-19 on herding behaviour, did not investigate the herding mentality, in the context of COVID-19, from individual investors' perspectives. Third, prior studies did not analyse the behavioural and demographic factors related to individual investors' herding mentality under the presence of the COVID-19 pandemic. In this article, we aim to advance the literature by investigating these relevant issues.

Our findings indicate that the COVID-19 pandemic importantly influenced individual equity investors' behaviour. More specifically, we found that the COVID-19 pandemic increased individual equity investors' herding mentality in the Saudi Arabian financial market, which is consistent with prior studies performed in European markets and the Australian financial market (Espinosa-Méndez and Arias, 2021a; Espinosa-Méndez and Arias, 2021b) but inconsistent with the Indian financial market (Dhall and Singh, 2020). Further, the present study explored that the most positively relevant behaviour factors to equity individual investors' herding mentality, during COVID-19 are defensive attitude, the shift in investment, opinion about the increase in speculation, no advice preferred in investment decisions, emotions about investment, slow absorption of new information, and the preference for mental calculation over complex calculations. However, our finding reported that herd mentality is significantly and negatively related to preferences for self-analysis. Further, we found several relevant demographic factors to individual investors' herding mentality during COVID-19 times including Gender, level of education, marital status and age.

The remainder of this study continues as follows: Section 2 outlines the theoretical background, Section 3 reviews the relevant literature, Section 4 presents the data analysis and discussion and Section 5 concludes.

2. THEORETICAL BACKGROUND

2.1. Traditional Finance Theories

Traditional finance theories, such as the capital assets pricing model (CAPM) and the efficient market hypothesis (EMH) are driven by the fact that financial markets are efficient. Accordingly, investors maximize their profit by making rational decisions (Fama, 1991). During the period from the early 60s to the mid-90s, traditional finance theory considered the efficient market hypothesis (EMH) as the dominant theory in the investment literature. However, after the 1990s, practitioners and researchers recognized remarkable anomalies, in the market, which traditional theories failed to explain.

As a result of more identified anomalies, several studies criticized the EMH and a new school of behavioural finance emerged, which argued that the market is not efficient. Behaviour finance theory assumes that investors do not maximize their profit by making rational decisions (Fogel and Berry, 2010). This is because individual investors are sensitive to many behavioural anomalies, which are inconsistent with the principles of wealth-maximization leading to irrational behaviours. These views result in the development of the Behavioural finance domain, which incorporates psychology and financial decisions. According to Vijaya (2016), behavioural finance links psychology to finance theory and concentrates on stock market behaviour at a macro-level, and individual investors' behaviour at a micro-level.

2.2. Behavioural Finance

There are influential theories in the behavioural finance literature including The Prospect Theory, Regret Aversion and Self Control theories. The prospect theory, which is developed by Kahneman and Tversky (1979), predicts that people usually take more risks to avert a specific loss and avoid higher risk even if higher profit is expected. The regret aversion theory postulates that investors avoid regret by declining to sell their shares, when their values are decreasing, and prefer to sell when the value is raised. Further, investors usually become more sorrowful about keeping and losing stocks for a long period or selling the profitable ones too soon (Forgel and Berry, 2010). Self-control revealed investors' ability to avoid bad habits, resist enticement and overcome first motives (Baumeister, 2002; Fujita et al., 2006). The self-control theory states that investors' financial decisions are determined by their self-control ability. Depending on individuals' mental accounts and how they consider their investment decisions, it is more or less costly for investors to save for the future (Strömbäck et al., 2017).

3. LITERATURE REVIEW

3.1. Behavioural Factors

Following the seminal behaviour finance paper published by Potter (1971), endless behavioural finance studies showed that financial factors are the key to investors' decisions, including quick growth, dividends, quick gains by trading and long-term growth (Talwar et al., 2021). However, Hirshleifer (2001) concluded that it is important to consider alternative factors that are related to human behaviour, such as psychology and sociology. These factors favour the investors' psychological profile rather than their financials (Khawaja and Alharbi, 2021). Researchers have ongoing attempts to contribute to the development of the investors' behavioural aspects of investment decisions. Overall, to understand the dynamics of individual investors' decision-making, the empirical literature explored that the common investors' behavioural factors are overconfidence, optimism, fear of loss, herd behaviour, positive attitude, consistency effect and cognitive bias.

Nagy and Obenberger (1994) evaluated 500 wealthy investors and investigated seven behavioural factors that impact their investment decisions. These factors are accounting information, neutral information, advocate recommendation, personal financial goals and the firm's image. Besides individual stockbrokers' opinions, Nagy and Obenberger (1994) found that classical wealth-maximization norms are key to investor behaviour. Barber and Odean (2001) tested the impact of overconfidence across men and women investment decisions. Their hypothesis pointed out that overconfidence is an important factor for investors since investors usually trust their estimations and believe in securities value. Their results provided empirical evidence showing that men significantly trade more than women. The difference is also obvious after considering the marital status among men and women.

Another study performed by Merikas et al. (2004), looked at the main factors influencing 150 Greek investors' behaviour, such as neutral information, personal and financial needs, accounting information and advocate recommendation. It is found, in this study, that the accounting information is the most considered factor by Greek individual investors. Further, Phuoc Luong and Thi Thu Ha (2011) examined behavioural factors of individual investors at the Ho Chi Minh Stock Exchange. They concluded that overconfidence, heuristic, prospect, market and anchoring-ability have an important influence on retail investors.

Owen and Qian (2008) postulated that the behaviour of individual investors' decisions is determined by several variables including gender, marital status, education level, employment, age and household income. Their empirical analysis of over 1800 individuals across the US, revealed that demographic characteristics such as education, gender, income, and non-financial motives are importantly relevant to individual investors. Jagongo and Mutswenje (2014) investigated the factors related to individual investors' decisions in New York stock exchange (NSE). They used a questionnaire for 50 investors. The factors they examined were neutral information, advocate recommendation, accounting information, self-image, firm image and personal financial needs. Jagongo and Mutswenje (2014) found that the most important factors related to individual investors' decisions are third party views, the firm's reputation, accounting performance and the perceptions towards the firm. Further, Shafi (2014) conducted a comprehensive survey on studies that examined the determinants of individual investors' behaviour across different countries. He concluded that most prior literature indicated that retail investors' decisions are not rational. The study of Shafi (2014) also presented a large list of factors that determine individual investors' decision-making behaviour. Moreover, Baker et al., (2019) advanced the literature by studying the role of financial literacy and demographic features (age, education, gender, occupation and marital status) on individual investors' behavioural biases. They found that some of the mentioned demographic factors are related to investors' behaviour. Mahmood and Ahmad (2020) found risk averseness as closely associated with the investor behaviour of using a thumb rule and having a double mind for decisions.

3.2. Individual Investors' Behavioural Factors in the GCC Markets

GCC markets are considered in the finance literature due to their importance to the global economy (Alnori et al., 2021; Bugshan et al., 2021). Some studies investigated the behavioural factors related to individual investors in the GCC setting (Abdullah and Hilu, 2015; Alsedrah and Ahmed, 2017; Khawaja and Alharbi, 2021; Matoussi and Mostafa, 2016). For instance, Matoussi and Mostafa (2016) examined the behavioural biases that influence Saudi investors in the main stock exchange (TASI). They analyse five behavioural biases factors including overconfidence bias, self-attribution bias, conservatism, representativeness and diffusion of information. Further, Alsedrah and Ahmed (2017) investigated the behavioural finance factors that impact individual stock investors' speculative behaviour, in the Saudi stock market. They found that confirmation, anchoring and overconfidence have a significant impact on individual investors' behaviour. Recently, analysed the factors related to individual investors' behaviour in Saudi stock market. After applying alternative methods across the data collected from 125 investors, Khawaja and Alharbi (2021), found that the investors' behaviour was not influenced by gender, but educational qualification and professional experience are importantly relevant to individual investors' behaviour. Another study conducted by Bouri et al. (2021) examined the impact of the COVID-19 pandemic on individual investors' herding behaviour based on 49 global stock markets. After applying different methods, Bouri et al. (2021) found that the herding behaviour among individual investors is significantly strong due to the COVID-19 pandemic. However, all the mentioned studies did not address the influence of the COVID-19 Pandemic on the behavioural factors of individual investors in GCC markets.

3.3. COVID-19 and Individual Equity Investor's Behaviour

Several studies posts that the preference for short term gains, having a double mind and less regard for contrary information as the behavioural traits which are closely associated with herd mentality (Ahmad and Mahmood, 2020).

Since the COVID-19 pandemic created dramatic uncertainty and panic among market participants worldwide (Ortmann et al., 2020; Talwar et al., 2021), few studies investigated the impact of such a pandemic on individual investor's behavioural factors. For example, Parveen et al. (2021) investigated the impact of the COVID-19 pandemic on individual investors' behavioural biases, sentiments and investment decisions in the Pakistan Stock Exchange via using a questionnaire from 401 investors. Parveen et al. (2021) found that the COVID-19 outbreak influenced the investor's investment decisions due to the fear and uncertainty caused by the COVID-19 pandemic. They also found that the overconfidence bias and disposition effect negatively impacted investors' decisions. Further, Gurbaxani and Gupte (2021) conducted a study to investigate the impact of COVID-19 on the investment decisions of individuals in India. Their results indicated that the COVID-19 has a significant impact on individual investors' decision-making behaviour. In addition, Sun et al. (2021) investigated whether investor sentiment, driven by COVID-19 related news has an impact on investors across 5 different countries including the US, Japan, China, Korea and Hong Kong. The findings of their study demonstrated that COVID-19 related news has a different effect on institutional and individual investor's behaviours. However, as inferred from the review literature, research on the impact of the COVID-19 pandemic on individual investors' behaviour in Saudi Arabia indicates a research gap. Additionally, past studies on emotional investors and the role of independent decision making was rarely found in the literature.

3.4. Herd Mentality during COVID-19

There are limited studies on investors' herding behaviour during COVID-19, which confirmed that the pandemic is importantly relevant to herding attitude (Bouri et al., 2021; Espinosa-Méndez, Arias, 2021a; Espinosa-Méndez, Arias, 2021b). Using a sample containing 49 global stock markets, Bouri et al. (2021) found

strong associations between COVID-19 and herd formation due to the higher market uncertainty induced by the COVID-19 outbreak. Bouri et al. (2012) also showed that herd behaviour is stronger in emerging markets relative to developed markets. Further, Espinosa-Méndez and Arias (2021b) found strong evidence that COVID-19 significantly increased the herding attitude in European financial markets including France, Germany, Italy, UK and Spain. Another study performed by Espinosa-Méndez and Arias (2021b) examined the linkage between COVID-19 and herding behaviour in the Australian stock market. They found that COVID-19 significantly increases herding attitude. In contrast to the mentioned studies which reported that the herding mentality in investors increased due to the COVID-19 pandemic, Dhall and Bhanwar (2020) examined the herding behaviour during the COVID-19 for stocks listed on the National Stock Exchange of India. Their analysis found that COVID-19 did not increase herding behaviour. However, all the reviewed studies did not investigate the effect of COVID-19 on herding behaviour in a financial market that is functioning in an oil-driven economy, such as Saudi Arabia.

4. RESEARCH METHODOLOGY

The objective of the current research is to study the herd mentality trait amongst equity investors and the interaction of this investor trait with other behavioural traits in the context of a pandemic (COVID-19). The COVID-19 period for the study has been specified as March 2020 to June 2021. The data was collected during the period from July 2021 to November 2021. The sampling used was judgmental sampling as the focus was on existing equity investors in Saudi Arabia. Online and offline questionnaires (English and Arabic) were used and consequently offline questionnaires were clubbed with online data to get the total data together in electronic form. The investigators developed their own questionnaire (instrument) based on a robust literature review. The reliability statistics of the survey instrument (as per Cronbach's Alpha) is 0.6 for all the 28 items and 0.67 for the 19 non-demographic variables. Face validity was done for the content validity of the instrument in discussion with two experts. All behavioural questions were rated on a Likert scale of 1 to 5 with 1 represented as "strongly disagree" to 5 as "strongly agree." The questionnaire was sent to about 700 respondents and finally 326 questionnaires (46%) were found usable and used for further analysis.

The herd mentality trait was measured based on the responses to the question "If I come to know of many people making an investment, I will also invest in that." The herd mentality trait has been taken as a dependent variable which is regressed with other behavioural traits of investors. This relationship is further studied by analysing the frequencies, correlations, cross-tabulations and moderation analysis. The demographic variables used in the analysis are educational qualification, finance qualifications, employment type, age, income, Investment experience and the gender of the respondents. Owen and Qian (2008) and Baker et al. (2019) also studied the significance of demographics on investor behaviour. SPSS 20.0 software is used for data analysis in the research.

Accordingly, three hypotheses have been formulated and tested in the study.

H_{01}: Herd mentality is not associated with overconfidence (see Barber and Odean, 2001)

H_{02}: Herd mentality is not associated with being emotional about investments

H_{03}: Investors with herd mentality are not independent decisions makers.

The moderation analysis has been conducted based on equation 1 where M_i takes the value of the moderator variables and IDV_j takes the value of independent variables, respectively.

$$Herd\ mentality = constant + IDV_j + M_i + IDV_j * M_i \quad (1)$$

5. DATA ANALYSIS AND DISCUSSION

Analysing the frequencies of the demographic variables, it is observed that 66% of respondents are salaried employees, 87% of respondents are males, 86% of respondents are <40 years of age, 49% of respondents are post-graduates, 59% of respondents are married while 72% respondents earn < 50,000 USD per annum. About 47% of total respondents have a finance qualification and 72% of respondents indicated an experience of <5 years of investing.

Analysing the behavioural traits of all 326 respondents in the context of COVID-19, it is observed that 46% of respondents agreed that they have become a more defensive investor during COVID-19, 59% of respondents are optimistic against the negative impact of COVID-19. About 33% of respondents disagreed while 40% agreed that their investments have reduced during COVID-19 while 64% of respondents indicated that they have started to save more due to COVID-19. About 57% of respondents rely more on fundamental analysis in uncertain times such as COVID-19. About 64% of respondents agreed that the market movements became more random and difficult to predict during the COVID-19 times while 48% of respondents agreed (15% disagreed) that they have changed their equity investment horizon during the pandemic. About 42% of respondents agreed (30% disagreed) that their equity earnings have decreased due to COVID-19 while 53% of respondents indicated that speculation in the equity market has increased during the COVID-9 pandemic.

About 65% of respondents believe that the pain of losses hurts more than the satisfaction of profits from equity investments, while 39% agreed (39% disagreed) that they are independent decision-makers. Analysing the behavioural traits of the sample, 33% of respondents disagreed and 39% agreed that they follow herd mentality while 41% were observed as overconfident in their equity investment behaviour. About 45% of the total sample was observed as emotional about their investments. About 55% of the total 326 respondents agreed that the Saudi government's economic support was helpful for the Saudi equity market during the COVID-19 times.

About 33% of respondents preferred to invest in real estate and 33% of respondents preferred other sources (apart from gold and fixed

income securities) as an alternative to equity investment. About 53% of respondents do self-analysis for investment decisions making, 46% of respondents rely more on mental calculations rather than complex models while 44% of respondents indicate that they are slow in processing the newly available information for equity investment decision making.

Analysing specifically, the correlations of investors with herd mentality with other behavioural traits for them, a significant and positive correlation is observed with increased defensive attitude during COVID-19 (0.28), the shift in investments during the COVID-19 period (0.27), increase opinion about the increase in speculation due to COVID-19 (0.15), no advice preferred in investment decisions (0.11), emotional about investments (0.17), slow absorption of new information (0.22) and the preference for mental calculations over complex calculations (0.2). Also, herd mentality is observed significantly and negatively correlated with a preference for self-analysis. The significant correlations were used in subsequent regression analysis with the herd mentality being the dependent variable and other behavioural traits as the independent variables (Table 1).

A cross-tabulation analysis is additionally conducted to observe the association of herd mentality traits with demographic variables and behavioural traits. About 25% of the total respondents who demonstrate herd mentality are salaried employees, 5% are professionals and 7% are unemployed. About 32% of males and 7% of females demonstrate herd mentality. About 21% of respondents who follow herd mentality are aged between 30 and 40 years, 7% in the age group 40-50 years and only 2 such respondents above 50 years of age.

About 21% of investors with herd mentality are post-graduate (highest amongst the segments). About 26% of married investors follow a herd mentality. Only 2% of high-income investors (more than 5 lakhs USD per annum) follow herd mentality while 27% of investors in the lowest segment (<50,000 USD) follow the herd mentality. Although, the income variable has a sample bias as 72% of the total sample is from the lowest income segment. About 17% of investors who have a finance qualification demonstrated herd mentality in comparison to 22% who do not have a finance qualification. About 13% of such investors preferred gold as an alternate investment and 14% preferred real estate investment. About 28% of investors with herd mentality were observed with <5 years of investment experience and only 4% have more than 10 years of investment experience.

Analysing the cross-tabulation data for other behavioural traits with the herd mentality traits 26% of investors indicated that for them the pain of investment losses is more than the excitement from investment profits. About 23% of investors with herd mentality showed optimism against COVID-19. About 25% of such investors indicated that during COVID-19 they have become more defensive while 17% of investors indicated that their profits have reduced during the COVID-19 pandemic. About 13% of investors with herd mentality indicated that they have changed investments during the COVID-19 pandemic while 26% indicated that they have started to save more during this pandemic. About 22% of investors with herd mentality rely more on fundamental analysis during uncertain times while 30% feel that the equity market is more unpredictable during a pandemic. About 25% of investors with herd mentality changed investment horizons during the COVID-19 period while an equal number indicated that speculation has increased during this pandemic.

About 18% of investors with herd mentality do not take advice but follow their own analysis for investment decisions while 26% rely more on mental calculations rather than complex valuation models. About 21% of investors with herd mentality are slow in absorbing new information, 17% of such investors are also overconfident while 22% are emotionally attached to their investments.

In Table 1, it is observed that herd mentality is significant with all the independent variables with the highest R-squared value (7.8%) and highest regression coefficient (0.29) for change in investment horizon for equity investments. Self-analysis is observed as negatively associated with the herd mentality (also confirmed by correlation analysis). The null hypotheses H02 and H03 were rejected based on the correlation and regression results which were found statistically significant. Accordingly, the null hypothesis (H_{01}) could not be rejected. The null hypothesis of H_{02} and H_{03} were further analysed for the moderating effects of three demographic variables (Age; Gender; Educational qualifications). The moderation results are presented in Table 2.

A moderation analysis (equation 1) was done to further probe the moderating role of three demographic variables (age; gender; educational qualification) on the relationship of herd mentality with emotional behaviour and independent decision making. All the moderation relationships were found statistically significant (Table 2). The maximum R-squared change (1.1%) and maximum R-squared value (6%) were observed for the moderation effect of gender on the relationship between

Table 1: Linear regression results

Dependent variable: Herd mentality			
Variable	**R-Squared (%)**	**p-value**	**Coefficient**
During the COVID-19 pandemic, I became a more defensive investor	7.3	0	0.26
I do not consider expert advice and make my own investment decisions	1.1	0.05	0.1
I am emotionally attached to my investments	2.3	0.01	0.16
Due to the COVID-19 effect, I have relooked my investment horizon (time)	7.8	0	0.29
Speculation amongst equity investors has increased due to the COVID-19 effect	1.8	0.01	0.16
I process information as per my own understanding and take investment decisions	2.1	0.01	−0.16
I am usually slow in processing and absorbing information in equity investment decisions	4.9	0	0.23
I rely more on mental calculations rather than complex valuation models for equity investment decisions	4.2	0	0.21

Source: Author's calculations

Table 2: Results from the moderation analysis

Dependent variable: Herd mentality					
Independent variables	**R-squared**	**P-value**	**Regression coefficients**	**R-Squared change**	**P-value**
Constant	4.8	0	2.893	0.6	0.001
Emotions		0.66	−0.072		
Age		0.531	−0.19		
Emotions* Age		0.149	0.123		
Constant	6.0	0	3.3	1.1	0
Emotions		0.313	−0.26		
Gender		0.245	−0.71		
Emotions* Gender		0.059	0.37		
Constant	3.8	0.005	1.85	0.9	0.006
Emotions		0.017	0.443		
Qualification		0.254	0.199		
Emotions* Qualification		0.092	−0.086		
Constant	3.3	0	2.804	0.3	0.013
Independent Decision (ID)		0.7	−0.057		
Age		0.1	−0.001		
ID * Age		0.296	0.079		
Constant	4.3	0.004	1.624	0.3	0.003
Independent Decision (ID)		0.147	0.245		
Gender		0.033	0.995		
ID * Gender		0.353	−0.130		
Constant	2.5	0	3.032	0	0.04
Independent Decision (ID)		0.5	−0.098		
Qualifications		0.37	0.14		
ID * Q		0.862	−0.008		

emotional investor and herd mentality. Age and gender were found to fully moderate the interaction of emotions ($\beta = -0.07$; $\beta = -0.26$) on herd mentality. Age and educational qualification were observed to fully moderate the effect of independent decision making ($\beta = -0.057$; $\beta = -0.098$) on herd mentality. The influence of age as a moderator is observed negative indicating that with increasing age an emotional investor tends to less follow the herd and the decisions become more independent. Additionally, the females were observed to be less emotional and less follow the herd in investing decisions as the gender indicated a negative sign and moderated the effect of emotions on herd mentality.

In relation to relevant studies, the increase in the herding mentality amongst individual equity investors, in the Saudi Arabian financial market, is consistent with prior studies performed in European markets and the Australian financial market (Espinosa-Méndez and Arias, 2021a; Espinosa-Méndez and Arias, 2021b) but inconsistent with a prior study performed by Dhall and Singh (2020), who documented that COVID-19 did not increase herding behaviour.

6. CONCLUSION

This study investigates the herd mentality amongst individual equity investors in Saudi Arabia. Further, this study also aims to investigate the interaction of individual investors herding traits with other behavioural factors in the context of the COVID-19 pandemic. The analysis performed on the data collected seems to provide reasonable outcomes for better decision making.

The descriptive statistical data analysis indicates that the majority of individual equity investors, in Saudi Arabia, agreed to follow the herding mentality during the COVID-19 pandemic, which is similar to the prior studies performed in Europe and Australia. Further, a large percentage in the study sample agree that Government economic support was helpful for the Saudi equity market during the COVID-19 times. During COVID-19, the analysis of individual equity investors' herd mentality with other behavioural traits indicated a positive and significant association with several behavioural factors. These behavioural factors have increased defensive attitude during COVID-19, shift in investment, increases in speculation, no advice preferred in investment decisions, emotions about investment, slow absorption of new information, and the preference for mental calculation over complex ones. In contrast, we found that herd mentality is negatively related to preference for self-analysis.

The analysis of the individual investors' herd behaviour with demographic variables indicates some relevant demographic factors to individual investors' herding mentality. Gender, level of education, marital status and age play an important role since the analysis found that male investors follow herd behaviour more than female investors during COVID-19. This was validated by a high R-squared value (6%) for gender as a moderating variable. The moderation analysis also revealed that with increasing age an emotional investor tends to follow the herd lesser and the decisions become more independent.

Important relevant implications can be derived from the outcomes of this study for market regulators, investors and policymakers. For a reasonable valuation of financial securities, individual investors should consider the effect of herd mentality on stock prices when making investment decisions. Herding behaviour usually inspires investors to invest in risky financial instruments that may increase market volatility. Further, during turbulence time, financial market

regulators should advise listed corporations to make appropriate disclosures regarding the effect of COVID-19 on their operations and current projects as an element of its disclosure to fully inform investors and shareholders. Finally, future research may investigate the role of the financial factors on retail equity investors' decisions in the context of the COVID-19 pandemic.

REFERENCES

Abdallah, S., Hilu, K. (2015), Exploring determinants to explain aspects of individual investors' financial behaviour. Australasian Accounting, Business and Finance Journal, 9(2), 4-22.

Alsedrah, I., Ahmed, N. (2017), Behavioral finance and speculative behavior of investors: Evidence from Saudi stock market. The European Proceedings of Social and Behavioural Sciences, 44(65), 604-618.

Ahmad, M.U., Mahmood, A. (2020), An empirical study on herd mentality in Indian investors, JIMS8M. The Journal of Indian Management and Strategy, 25(3), 58-61.

Alnori, F. (2020), Cash holdings: Do they boost or hurt firms' performance? Evidence from listed non-financial firms in Saudi Arabia. International Journal of Islamic and Middle Eastern Finance and Management, 13(5), 919-934.

Alnori, F., Alqahtani, F. (2019), Capital structure and speed of adjustment in non-financial firms: Does sharia compliance matter? Evidence from Saudi Arabia. Emerging Markets Review, 39, 50-67.

Alnori, F., Bugshan, A., Bakry, W. (2021), The determinants of corporate cash holdings: Evidence from Shariah-compliant and non-Shariah-compliant corporations. Managerial Finance, 48(3), 429-450.

Ariely, D., Wertenbroch, K. (2002), Procrastination, deadlines, and performance: Self-control by precommitment. Psychological Science, 13(3), 219-224.

Baker, H.K., Kumar, S., Goyal, N., Gaur, V. (2019), How financial literacy and demographic variables relate to behavioral biases. Managerial Finance, 45(1), 124-146.

Barber, B.M., Odean, T. (2001), Boys will be boys: Gender, overconfidence, and common stock investment. The Quarterly Journal of Economics, 116(1), 261-292.

Baumeister, R.F. (2002), Yielding to temptation: Self-control failure, impulsive purchasing, and consumer behavior. Journal of Consumer Research, 28(4), 670-676.

Bouri, E., Demirer, R., Gupta, R., Nel, J. (2021), Covid-19 pandemic and investor herding in international stock markets. Risks, 9(9), 168-180.

Bugshan, A., Alnori, F., Bakry, W. (2021), Shariah compliance and corporate cash holdings. Research in International Business and Finance, 56, 101383.

Dhall, R., Singh, B. (2020), The COVID-19 pandemic and herding behaviour: Evidence from India's stock market. Millennial Asia, 11(3), 366-390.

Demirer, R., Leggio, K.B., Lien, D. (2019), Herding and flash events: Evidence from the 2010 Flash Crash. Finance Research Letters, 31, 18.

Espinosa-Méndez, C., Arias, J. (2021), COVID-19 effect on herding behaviour in European capital markets. Finance Research Letters, 38, 101787.

Espinosa-Méndez, C., Arias, J. (2021), Herding behaviour in Australian stock market: Evidence on COVID-19 effect. Applied Economics Letters, 28(21), 1898-1901.

Fama, E.F. (1991), Efficient capital markets: II. The Journal of Finance, 46(5), 1575-1617.

Fogel, S.O.C., Berry, T. (2010), The disposition effect and individual investor decisions: The roles of regret and counterfactual alternatives. In: Handbook of Behavioral Finance. United Kingdom: Edward Elgar Publishing.

Fujita, K., Trope, Y., Liberman, N., Levin-Sagi, M. (2006), Construal levels and self-control. Journal of Personality and Social Psychology, 90(3), 351.

Gurbaxani, A., Gupte, R. (2021), A study on the impact of COVID-19 on investor behaviour of individuals in a small town in the state of Madhya Pradesh, India. Australasian Accounting, Business and Finance Journal, 15(1), 70-92.

Hirshleifer, D. (2001), Investor psychology and asset pricing. The Journal of Finance, 56(4), 1533-1597.

Kahneman, D., Tversky, A. (1979), Prospect theory: An analysis of decision under risk. Econometrica, 47(2), 263-291.

Khawaja, M.J., Alharbi, Z.N. (2021), Factors influencing investor behavior: An empirical study of Saudi Stock Market. International Journal of Social Economics, 48(4), 587-601.

Mahmood, A., Ahmad, M.U. (2020), A study on behavioural traits of risk averse investors: Evidences from India. SMART Journal of Business Management Studies,16(2), 115-123.

Matoussi, H., Mostafa, M.A. (2016), An investigation of Investors Bias on Saudi stock exchange. International Research Journal of Finance and Economics, 31, 66-81.

Merikas, A.A., Merikas, A.G., Vozikis, G.S., Prasad, D. (2004), Economic factors and individual investor behavior: The case of the Greek stock exchange. Journal of Applied Business Research, 20(4), 1-10.

Mutswenje, V.S., Jagongo, A. (2014), A survey of the factors influencing investment decisions: The case of individual investors at the NSE. International Journal of Humanities and Social Science, 4(4), 92-102.

Nagy, R.A., Obenberger, R.W. (1994), Factors influencing individual investor behavior. Financial Analysts Journal, 50(4), 63-68.

Ortmann, R., Pelster, M., Wengerek, S.T. (2020), COVID-19 and investor behavior. Finance Research Letters, 37, 101717.

Owen, A.L., Qian, Y. (2008), Determinants of socially responsible investment decisions. In: Empirical Economics Letters. New York: Hamilton College. p1-10.

Parveen, S., Satti, Z.W., Subhan, Q.A., Riaz, N., Baber, S.F., Bashir, T. (2021), Examining investors' sentiments, behavioral biases and investment decisions during COVID-19 in the emerging stock market: A case of Pakistan stock market. Journal of Economic and Administrative Sciences, ahead-of-print

Phuoc Luong, L., Thi Thu Ha, D. (2011), Behavioral Factors Influencing Individual Investor'sDecision-Making and Performance: A Survey at the Ho Chi Minh Stock Exchange. Sweden: Master's Thesis, Umea School of Business, Umea University.

Potter, R.E. (1971), An empirical study of motivations of common stock investors. Southern Journal of Business, 6(1), 41-44.

Shafi, M. (2014), Determinants influencing individual investor behavior in stock market: A cross country research survey. Nigerian Chapter of Arabian Journal of Business and Management Review, 62(1100), 1-12.

Strömbäck, C., Lind, T., Skagerlund, K., Västfjäll, D., Tinghög, G. (2017), Does self-control predict financial behavior and financial well-being? Journal of Behavioral and Experimental Finance, 14, 30-38.

Sun, Y., Bao, Q., Lu, Z. (2021), Coronavirus (Covid-19) outbreak, investor sentiment, and medical portfolio: Evidence from China, Hong Kong, Korea, Japan, and US. Pacific-Basin Finance Journal, 65, 101463.

Talwar, M., Talwar, S., Kaur, P., Tripathy, N., Dhir, A. (2021), Has financial attitude impacted the trading activity of retail investors during the COVID-19 pandemic? Journal of Retailing and Consumer Services, 58, 102341.

Vijaya, E. (2016), An empirical analysis on behavioural pattern of Indian retail equity investors. Journal of Resources Development and Management, 16, 103-112.