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The Existence and Impact of Herd Behavior on Pakistan's Textile Sector

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Abstract

In this study, the influence of investors' herding behavior on stock market performance is investigated. Previous research has demonstrated that fundamental knowledge is what drives herd behavior, which prompts swift price changes in reaction to fresh knowledge and, as a result, creates efficient markets. However, some research contends that price volatility results from herd behavior, which is unaffected by fundamental information. For the intent of this study, the stock returns were computed using the daily closing prices of the shares of the textile companies listed on the PSX. Utilizing the market-wide herd measure, Chiang and Zheng (2010) analyzed the herd behavior across the entire market. It significantly affects the return on the stock market. The results and their connection will be displayed using multiple regression analysis. A look at the data's Stationarity, Heteroscedasticity, and Autocorrelation issues has been done. The findings revealed that herding wasn't used in PSX, despite being used in other sectors. The results of this study can help regulators thoroughly examine market irregularities that support effective market processing. These findings offer firm finance managers practical guidance for raising market returns. This research fills a knowledge gap by focusing on the effects of herding behavior, currency exchange rate, GDP growth, as well as liquidity on the return of the stock market

Keywords: *herd behavior, csad, gdp growth, exchange rate, liquidity, volatility, psx and stock returns*

INTRODUCTION

Behavioral finance is a topic that blends psychology, social science, and finance, according to Schiller (2003). The foundation of many financial models, the Efficient Market Hypothesis (EMH), is directly at odds with conventional financial theory., which is under fire (Ohlson, 2010). And as a consequence of this, behavioral finance (EMH) began to grow towards the end of the 20th century. Barber and Odean (1999) claim that the EMH condition hardly ever accurately captures the reality and evidence of actual investment behavior. According to them, behavioral finance is a cutting-edge corpus of theory that promotes knowledge of the financial markets while enabling irrational investor behavior and inefficient market operation. The herding theory emerged from the emergence of behavioral finance theories. Herding conduct in the stock market involves copying what other investors do. The phenomenon of herding has been investigated in an effort to better understand how investors make their investment decisions. Financial markets are significantly impacted by investors' propensity to imitate or repeat the actions of other investors. According to the herding behavior hypothesis, investors that tend to herd would conceal some of their personal information, which would lead to prices deviating even more from their genuine value and possibly leading to a shift in pricing (Balcilar et al., 2013).

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Herding behavior and societal influence have quickly increased as a result of the economy and finances. An interdisciplinary approach has been used to study this evolution, drawing on ideas from the behavioral and social sciences (which include the fields of economics psychology, sociology, biology, and neurology). Using this technique, it was found that the levels of feelings and reasoning are shared by social factors and herding behavior. When making investment decisions, investors consider psychological variables in addition to potential investments, return rates, or risk levels (Nair, Balasubramanian, & Yermal, 2017; Fransiska, Sumani, Willy, & Pangestu, 2018; Satish & Padmasree, 2018). According to behavioral finance theory, when making investment decisions, investors' behavior is influenced by both psychological and rational elements (Areiqat, Abu-Rumman, Al-Alani, & Alhorani, 2019). According to Ricciardi & Simon (2000), those who (Blindly) follow the decisions of others exhibit herding behavior. There are two types of herding: Both illogical and rational herding are used. The rational herd behavior viewpoint claims that investors engage in herding behavior when they blatantly ignore their own evaluation in an effort to recuperate their profits as well as copy or comply with the decision of a different manager who is privy to more accurate data or who possesses a high level of competence in investment evaluation (Bikhchandani & Sharma, 2000). According to Devenow and Welch (1996) and Yousaf et al. (2018), investors engage in herds to reduce uncertainty and increase confidence in financial gains.

According to Falkenstein (1996), the herding behavior study employs both adaptive and reasonable expectations to direct investment choices. The rational expectation technique uses the investor's own research as the foundation for investment decisions. Investors copied others while experiencing adaptive expectancies (Bikhchandani et al., 1992). According to the primary agent model, supervisors follow others logically and intelligently to uphold their standards in the market, whereas blindly following others without providing any justification is known as an irrational psychological behavior (Kenneth & Scharfstein, 1992; Shusha & Touny, 2016). Herding also affects both rationality and irrationality. It suggests that as new information enters the market, stock prices and, consequently, herd behavior, automatically adjusts. All market participants, including investors of all kinds, institutional and individual fund managers, and financial analysts, and platforms for real estate, stocks, bonds, commodities, exchange-traded funds, foreign exchange, and futures, were thoroughly examined. Financial markets' condition evolves over time. A bullish market attitude provides an elevated rate of returns. Low rates of return, on the other hand, are linked to bearish markets. Because this demonstrates that investor behavior might vary based on the state of the market, more research is necessary. In a volatile market, investors' herding behavior also changes, and the correlation between this behavior and market (portfolio) performance is no longer linear. The primary focus of this study is investors' non-linear herding behavior (Chang et al., 2000).

In the fund markets, investors always seek high return with minimal risk. Although there are several ways to somewhat reduce the risk of investments, such automatic investing schemes Lee and Mo (2021) selecting the appropriate length to go with Canepa, Co. (2020) and Yadav (2016) both discuss the use of buffers. They can't tell the difference between selecting a fund and striking an equilibrium between return and risk. Investors are going to be exposed to these risks as a result of fund managers' inclination for risk-taking incentives for the aftermath of unsatisfactory performance (Dichev & Yu, 2011). Herding conduct, as defined by Choi and Yoon (2020), happens when the economy is struggling. When volatility or trading volume is low, herding tendency occurs. Investors may swarm during times of market instability, according to evidence of a weak herding propensity. The relationship between investor sentiment and herding behavior has been investigated, and it has been discovered that investor sentiment constitutes one of the major variables that may affect herding behavior. The specific problem is that sector-level behavior was ignored in favour of market-level behavior in the bulk of herding research. But in this study, the stock market return at the sector level will be improved by the herding behavior, exchange rate, GDP, liquidity, and stock returns. The biggest issue with this analysis is that the Pakistan Stock Exchange was not taken into account in earlier surveys.

1. To examine the herd behavior of PSX traders
2. To look into how often gather behavior occurs in PSX's textile industries.
3. Examine the market's trader herding behavior by focusing on PSX trading data.

LITERATURE REVIEW

Herding is a real activity that mostly has to do with the animal mentality that drives the stock market's irrational optimism and confidence. In its original sense, the word "herd" is whence it derives. Investors who frequently replicate or repeat the actions of other investors are considered to display "herd" behavior, according to the definition of the term. Investors often choose well while making their investing decisions. Investors would probably purchase shares if the stock price fell, and vice versa. But in some situations, like a crisis, investors frequently behave in an unreasonable manner (Armansyah, 2018). A stock market return is the overall increase or decrease in an asset's value. If the return was favourable, the acquisition was lucrative. If the yield was poor, the investor would have lost money **(**Fatihudin, 2018)**.** The phenomenon known as herding occurs when people decide to follow others and adopt group behaviors rather than acting freely and atomistically in light of their own, particular knowledge (Bikhchandani, 2000). The cost of converting one currency into another is known as the exchange rate. The majority of exchange rates are thought to be flexible and move in response to market supply and demand. Certain exchange rates may be influenced or determined by the value of a nation's currency (Rossi, 2013). The GDP (gross domestic product) of a country is a measure of the marketplace value of the products and services produced inside that country during a specific time period, often a year (Leamer, 2009).

Liquidity is the ability to timely pay financial commitments. Liquidity is a sign of a company's financial stability. After defaulting on its debt obligations to its short-term creditors, every successful corporation or organization will eventually go bankrupt (Holden, 2014). Whoever professes to be rational, how can that be when a majority of people follow others' decisions without drawing their own inferences or using their own logic? Herding is one of the main human actions that explain why people don't follow other people's common-sense judgments (Shah, Yousaf, & Ali, 2018).People commonly copy the financial decisions of others when there is a lack of knowledge accessible to the general public. The phenomena of "herding" is well-known. Academic scholars and investors alike have recently begun to pay more attention to financial market herding. Investors are curious as to whether they may profit from using their general knowledge. Academic researchers are interested in herding because prices start to vary from fundamental values as a result. Existing literature discusses herding using both illogical or logical angles. Investors discard their prior beliefs and follow others without question, as shown by (Deve now & Welch, 1996; Yousaf et al., 2018). Sun (2013) perceived and operationalized each novel concept—limiting one's own expertise (DOI) and imitation—to explain herd actions in the setting of technology adoption. DOI refers to how much an individual ignores what they think when making a technology adoption decision. Sun also went into great detail on the conditions that herd behavior happens in connection with the adoption of technology, how it influences decisions about adoption, and how it influences usage after adoption.

The literature may be debating whether or not herding is essentially an information setup in the financial market. Hirshleifer et al. (1994) provided data in favor of traders' non-information-based conduct by modeling previous financial sector transactions. The efficient market hypothesis was disproved by Caparrelli et al., (2004) who studied the Italian financial market's large firms and found substantial intentional or illogical herding. The literature may be debating whether or not herding is primarily information setup. By modelling past financial sector transactions, Hirshleifer et al., (1994) presented evidence in favour of traders' non-information-based behavioral behavior. Large enterprises in the Italian financial market exhibit significant purposeful or irrational herding, contrary to what Caparrelli et al., (2004) showed. Omay and Iren (2019) look at how foreign investors behaved in Malaysia throughout the crisis. The authors investigated the herding tendency of foreign investors in Malaysia during a crisis using generalized impulse response algorithms and smooth-transition autoregressive analysis. Additionally, they asserted that foreign investors respond to crises more quickly than local ones. Furthermore, current research investigations on herding behavior are increasingly using regime-dependent and dynamic approaches of investigation. Ah Mand and Sifat (2021) looked into the context-dependent herding behavior of investors in Malaysia. The Malaysian herding tendency was found to be a non-linear, highly regime-dependent phenomenon using a two-state Markov switching model. Additionally, Kumar et al., (2020) the Asia-Pacific area exhibits herding behavior among investors, according to a study that examines it by differentiating investor herding behavior in relation to various market situations.

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Armansyah (2018) Indonesia is a country in Asia that is still developing. Investors from all over the world go to Indonesia, a developing country, for its capital markets. A decision about an investment must be based on reliable, accurate information. Information gathered for one investment might not apply to another. These differences may lead to herd behavior. Good herd behavior will lead to economic growth; otherwise, crises will happen. These scholars looked at how investor herding affected the 2008 and 2013 financial meltdowns in the Indonesian capital market. Herding has a higher impact on investor psychology in emerging markets, claim Luu (2020), Arisanti, and Asri (2018). Investors from the following six sectors dominated the herding behavior on the Indonesian capital market: agricultural, transportation, infrastructure, financial services, mining, and real estate. From a contrary perspective, the Indonesian capital market was not showing the herding behavior symptoms since there were no major price fluctuations or an increase in the market stress situation, according to Agarwal, Chiu, Liu, and Rhee (2010). According to Khan & Hijazi (2009) and Khan & Abass (2013), the Pakistani financial system is notable for possessing higher levels in stock price volatility. Since its creation, the benchmark KSE-100 Index has experienced a number of boom-and-bust cycles (Khan, 2006; Malik et al., 2013). We have a solid reason to look at herding behavior throughout the Pakistani capital market because of this feature. For instance, according to Gavriilidis et al. (2013), higher volatility may lead to investor herding. If volatility is caused by a rise in the amount of information, uninformed investors will try to profit from the expertise of more knowledgeable traders. Investors may also try to herd the market during periods of severe volatility in an effort to remove uncertainty. Market volatility is the main factor influencing herding in the bordering stock exchanges in Gulf Arab republics, as reported by Economou et al. (2011) and Balcilar et al. (2013).

In the opinion of Broeders et al. (2021), the distribution of bonds and stocks for 39 large Dutch pension funds provides empirical evidence of herding tendency. Koetsier and Bikker (2021) found that investing in government bonds also exhibits significant herd behavior. They conclude that the degree of herding is influenced by macroeconomic, financial, and institutional factors. Brealey and others (2007) without completely understanding what they would receive in return, investors invested their money in the capital markets. However, with rigorous historical analysis of stock market values, investors can predict their future investment returns and risk. The Pakistan Stock Market has increased its contribution to financial development over time and continues to be the best exchange market in South Asia in 2016 (Robert 2016). The uniformity of securities exchange returns was researched in the US and Malaysia, though not to the exact same extent as it has been for the Pakistan Stock Market (Kheradyar, Ibrahim, & Nor, 2011). The goal of this study by Elrhim and Elsayed (2020) was to investigate how the COVID-19 spread affected The Egyptian Exchange's sectoral indices. To measure the disease's spread, the daily total of "Coronavirus cases" and "Coronavirus deaths" was employed. Additionally, the population of Egypt is considered while determining the amount of "New cases of Coronavirus" and "New deaths from Coronavirus." The dependent variable demonstrates the way the Egyptian sector indicators reacted to the spread of the Coronavirus through the return on investment of each day's sector indices on the Egyptian stock market. Every day from March 1, 2020, and May 10, 2020, this was put into practice. According to the behavioral finance theory, when making investment decisions, investors' behavior is influenced by both psychological and rational elements (Areiqat, Abu-Rumman, Al-Alani, & Alhorani, 2019).

H1: The stock market return is highly impacted by herding behavior.
H2: The Return on the Stock Market is heavily impacted by Exchange Rate.
H3: The country's gross domestic product has a big impact on the return on the stock market.
H4: The return on the stock market is substantially impacted by liquidity.

METHODOLOGY

The research methodology and two cutting-edge models for identifying herding patterns in the financial market are presented in this part. This study will only use secondary data and present the strategies used by the model to identify market-wide herd behavior. Utilize the longitudinal nature of this panel data as well. It is possible to calculate dispersion using the cross-sectional standard deviation (CSSD). The authors also contend that when there are significant market changes, consumers have a higher obligation to pay attention to market performance. This suggests that when choosing which investments to make, investors will simply take the market's success into account. Therefore, the difference between

individual returns and market returns won't be very different. As a result, the CSSD, or level of dispersions, will be smaller than it would be under typical market circumstances. On the other hand, it is projected that dispersion will rise during times of significant market 18 changes. The authors also offer a cross-sectional absolute deviation assessment (CSAD). Using the following formula, each day's individual stock returns of every stock that comprises the study sample are first calculated as follows:

$$R_{i,t} = \frac{P_t - P_{t-1}}{P_{t-1}}$$

Finding each stock's daily stock market return is the second step in this analytical methodology. Stock market returns are used as the research sample for this procedure, and the formula below is used:

$$R_{m,t} = \frac{P_{m,t} - P_{m,t-1}}{P_{m,t-1}}$$

Each day's stock market return over the same time period t is compared with the median value for the Cross-Sectional Absolute Deviation (CSAD) of every single stock return in the third stage of the analytical technique. The CSAD model has gone through a number of changes even though it is founded on the theories of the CSSDs. The CSAD model is far more precise because it can represent herd behavior during times of highly fluctuating market returns. This approach is based on the absolute standard deviation of the results. Both the weighted average returns on the market and the distribution of returns for every particular stock are described. The CAPM model explains the CSAD model. Herd behavior, especially during times of market return, causes the aggregation of individual security returns. Investors must give up personal information in order to imitate market information. As an overview, the CSAD computation is as follows:

$$CSAD_t = \frac{1}{N}\sum_{i=1}^{N} |R_{i,t} - R_{m,t}|$$

Estimation Equation

Where β is the regression coefficient of the following functions:

$$SMR_{i,t} = \alpha + \beta 1 GDP_{i,t} + \beta 2 ER_{i,t} + \beta 3 LIQ_{i,t} + \beta 4 VOL_{i,t} + \beta 5 GP_{i,t} + \beta 6 HB_{i,t} + \varepsilon_{i,t}$$

The macroeconomic elements in this equation are GDP growth and exchange rate, while the fundamental factors are liquidity, volatility, and gold prices. The following equation yields a CSSD transverse standard deviation (SD):

$$CSSD_t = \sqrt{\frac{\sum_{i=1}^{N}(R_{i,t} - R_{m,t})^2}{N-1}}$$

N is the total number of industries in the sample, R_(i,t) is the measured stock return for industry i at time t, and R_(m,t) is a cross-sectional average stock all N returns for the portfolio at time t.

The Lakonishok, Shleifer, and Vishny (LSV) Model of Lakonishok et al., (1992) and Chang, Cheng, and Khorana (2000) Cross-Sectional Absolute Deviation of Returns (CSAD) are the two sources for empirical investigations that are most commonly cited. The initial methodology for empirical evaluation was presented by Lakonishok et al. in 1992 and has since been extensively adopted. They demonstrate how their trading may have a herding impact on stock prices using the (LSV) model. By using the Cross-Sectional Absolute Deviation of Returns (CSAD) as a gauge of how closely on average individual asset returns track the realized market average in the US equities market, Christie and Huang (1995) investigate the herding behavior. By developing the CSAD, a cutting-edge and successful technique for recognizing herding based on equity return behavior, Chang, Cheng, and Khorana (2000) expand on Christie and Huang's (1995) research (Lan & Lai, 2011). For two key reasons, this study applies Chiang and Zheng's (2010) technique. They used their method to first look for evidence of herding in developed

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nations. Second, the strategy acknowledges that comprehending local market herd behavior requires a thorough comprehension of foreign effects. It is driven to further study if investors perform, herd across international borders in the wake of repeated global financial disasters.

DATA ANALYSIS AND INTERPRETATION

The table below displays the sum of the descriptive statistical effects of the responding, exposure, and control components. Included are the mean, highest and lowest values, the standard deviation, and all other values. The data's current smallest and largest values are displayed, respectively, as its most current minimum and maximum values. The mean denotes the average of the data, whereas the standard deviation shows the normal variance of the data. The 580 textile businesses registered on the PSX are each given a brief description. 18.98 is the mean as determined by the CSAD. The median stock return is 0.981. They have a maximum and a minimal value of 0.5 and 0, respectively. The usual absolute values of Rm in the square are 1.71 and 2.85, correspondingly. The average return's mean is not met, as seen by the standard deviation over the mean of 1.416. Below, you'll find information about the lowest, maximum, along with CSAD standard deviation in the correct order of 3.176, 0, and 26.675. The standard deviation of the average stock return is 0.865, with a range of -0.002 to 8.939, correspondingly. The fixed effect is justified since the p-value obtained from the hausman test in the present research is 0.0231 less than 0.05.

Table Descriptive Statistics and Stationarity Results of Cross-Sectional Absolute Deviation

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
CSAD	580	18.958	3.176	9.822	26.675
AVG of stock return	580	.981	.865	.002	8.939
Square of Rm	580	1.71	4.255	0	79.901
Abs Values of Rm	580	2.85	1.416	1.316	7.796

Source: Pakistan Stock Exchange (Results are computed on the basis of data taken from PSX). The above table shows the sectoral distribution of the PSX as well as cross-sectional absolute deviation (CSAD) descriptive statistics. The stock return dispersion data cover the period from 2017 through 2021.

Table Regression results of overall days

CSAD	coefficient	S.E.	T-S	P-V	Sig.
Abs value of Rm	0.265	.126	2.10	0.036	**
Squ of Rm	-0.096	0.041	-2.30	0.022	**
Dependent variable mean		18.958			
R-Sqr		0.0100			
F-test		2.91			
S.D of D.V		3.176			
No of observation		580			
Probability > F		0.055			

**p<0.1; **p<0.0 5; ***p<0.01*

The Cross-Sectional Absolute Deviation (CSAD) for the regression result is shown in Table above. Because all of these p values are under the sig threshold of (***p0.01, **p0.05, *p0.1), the square of Rm and its absolute number have a small and insignificant influence on the CSAD. The square of Rm shows a -0.096 negative significant impact on CSAD at a significance level of 0.05, suggesting the existence of CSAD in the textile sector. Additionally, the absolute magnitude of return by 0.265 has a considerable favorable impact on CSAD. A 1% change in the variable that is independent will result in

a 5% change in the dependent variable, according to the R-square of 0.01. The fact that the value of F is equal to the threshold and the Prob > F = 0.05 indicates that the model in question is reliable.

Table Regression results for up days

CSAD	coefficient	S.E.	T-S	P-V	Sig.
Rm_squ_up	-0.096	0.041	-2.30	0.022	**
Rm_abs_up	0.265	0.126	2.10	0.036	**
R-Sqr	0.0100				
F-test	2.91				
No of observation	580				
Probability > F	0.055				

**p<0.1; **p<0.0 5; ***p<0.01*

The table above displays the results of the Pakistan Stock Exchange's up days from 2017 to 2021. On days when the market is rising, herd behavior is supported by the square of stock return's significant negative value of -0.096. And the F value shows how accurate and well-fit the model is.

Table Regression results for down days

CSAD	coefficient	S.E.	T-S	P-V	Sig.
Rm_squ_down	0.092	0.032	2.81	0.005	**
Rm_abs_down	1.191	0.368	3.23	0.001	***
R-Sqr	0.019				
F-test	6.07				
No of observation	580				
Probability > F	0.0025				

**p<0.1; **p<0.0 5; ***p<0.01*

The table above provides a summary of the down days for the Pakistan Stock Exchange from 2017 to 2021. With a significant positive value of 0.092, the square of stock return shows that there's no evidence of herd behavior during market downturns within the financial sector. The model fails to be precise and fits poorly, according to the F value.

Table Descriptive Statistics of Macro Economic Factors and Company's Specific Factors

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Quick Ratio	44	1.131	1.910	0.053	6.93
GDP	44	3.594	2.878	-1.274	6.487
Exchange Rate	44	139.901	23.182	105.455	162.91
Rm	44	3.033	1.184	2.172	8.938
GP	980	63821.57	19812.57	41144	111842

Source: Results are computed on the basis of data taken from PSX.

The table above displays the descriptive statistical effects of the responding, exposure, and control components. Included are the standard deviation, mean, highest, and lowest values. While the mean and standard deviation show the data's average value and normal distribution, respectively, the most recent minimum and maximum values show the data's most recent lowest and highest values. While gold prices

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reveal 980, the Quick Ratio, GDP growth, and exchange rate each offer descriptive data with 44 observations. The quick ratio is used as a liquidity indicator. It shows a mean of 1.131, a standard deviation of 1.910, with a bare minimum of 0.03, and a maximum value of 6.93, whereas the GDP mean value is 0.981, the currency exchange rate mean is 139.901, while the mean stock return is 3.033.

Table Regression results with RM

RM	coefficient	S.E.	T-S	P-V	Sig.
Quick Ratio	-0.082	0.097	-0.84	0.051	**
GDP	-0.023	0.093	-0.25	0.027	**
Exchange Rate	-0.014	0.032	-0.43	0.068	*
GP	0.078	0.047	0.17	0.059	**
R-Sqr	0.4701				
F-test	0.48				
S.D of D.V	1.184				
No of observation	44				
Probability > F	0.749				

**p<0.1; **p<0.0 5; ***p<0.01*

The reverse or direct link between both independent and dependent variables is explained generally in The table above. In an inverse connection, when the value of the independent variable falls, the dependent variable (Rm) rises, and vice versa. In contrast with the remaining independent variables GDP, ER, and quick ratio, which exhibit an inverse link with stock return, the value of gold prices, which is 0.078, shows a direct association with stock return. These findings suggest that when there is a negative, significant association between cross-sectional relative deviation and market returns, herding takes place and stock return is additionally impacted. This may indicate that individual business returns have a propensity to cluster along market or industry returns, which minimizes market exit increases stock return, and, ultimately, leads to herding behavior.

Correlation Analysis

A positive correlation exists between the variables if the value is +1; a negative correlation exists between the variables if the value is -1. Rare circumstances like positive correlation as well as negative association are absent from the vast majority of studies. If the coefficient is zero, there is no correlation between the variables under consideration. In other words, there must be a positive or negative relationship between any two of the variables being studied. According to the fundamental principle of correlation analysis, a relationship exists between the variables if the outcome is less than 0.05. If the value is more than 0.05, then there is no connection between the components.

Table Co. Matrix with Rm

Variables	(i)	(ii)	(iii)	(iv)	(v)	(vi)
(i) CSAD	1.					
(ii) Quick Ratio	0.130	1.				
(iii)GDP	0.110	0.002	1.			
(iv) ER	0.180	0.044	-0.419*	1.		
(v) GP	0.029	0.048	-0.187	0.937*	1.	
(vi) Rm	-0.146	-0.139	0.041	-0.167	-0.157	1.

We can see the relationship between the dependent and independent components in The table above. The results do not indicate a statistically significant association between the exposure factors and the Rm, according to the correlation matrix. Stock return and GDP have a considerable positive relationship. However, the CSAD -0.146, quick ratio -0.139, and exchange rate -0.167 show the Rm and the Rm have a significant but unfavorable association. The hypothesis is supported with a 5% margin of error at a 95% level of confidence. None of the variables exhibit heteroscedasticity. These results support the idea that assesses excessive market fluctuations and promotes herding in these sectors. The results highlight how investors in these sectors consistently disregard their own judgment and adhere to popular opinion. The asset pricing model failed to be justified in these situations, according to the data. Apart from this, there was not much proof that investors who traded on the Pakistan Stock Exchange often exhibited herding behavior. Investors in PSX were probably more focused on selecting wisely. Why herding is used in some businesses while not in others is up for debate. Investors' lack of confidence is one potential explanation for this.

Year wise regression analysis of CSAD

(a) 2017

Table Regression results with CSAD

CSAD	coefficient	S.E.	T-S	P-V	Sig.
Rm_squ	-0.012	0.039	-0.33	0.745	
Rm_abs	0.390	0.214	1.82	0.070	*
R-Sqr	0.053				
F-test	5.88				
No of observation	213				
Probability > F	0.003				

**p<0.1; **p<0.0 5; ***p<0.01*

The CSAD effect on stock return is shown in table of regression above for the period of 2017. Herding is present because the stock return square has a negative value of -0.012.

(b) 2018

Table Regression results with CSAD

CSAD	coefficient	S.E.	T-S	P-V	Sig.
Rm_squ	-0.211	0.048	-0.33	0.745	
Rm_abs	0.011	0.034	1.82	0.070	*
R-Sqr	0.886				
F-test	944.72				
No of observation	213				
Probability > F	0.0000				

**p<0.1; **p<0.0 5; ***p<0.01*

There is herding because the stock return square's value of -0.211 is positive in the table above which illustrates the CSAD effect on stock return for the period of 2018.

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(c) 2019

Table Regression results with CSAD

CSAD	coefficient	S.E.	T-S	P-V	Sig.
Rm_squ	-0.193	0.003	49.92	0.000	***
Rm_abs	0.011	0.038	0.31	0.758	
R-Sqr	0.922				
F-test	1248.54				
No of observation	213				
Probability > F	0.0000				

**p<0.1; **p<0.0 5; ***p<0.01*

There is herding because the value of -0.193 of the stock return square is positive and has a highly substantial impact on the CSAD, as shown in table of regression above for the period of 2019.

(d) 2020

Table Regression results with CSAD

CSAD	coefficient	S.E.	T-S	P-V	Sig.
Rm_squ	-0.129	0.002	46.20	0.000	***
Rm_abs	0.014	0.042	0.33	0.739	
R-Sqr	0.913				
F-test	1110.98				
No of observation	213				
Probability > F	0.0000				

**p<0.1; **p<0.0 5; ***p<0.01*

There is herding because of the positive stock return square value of -0.129, which also has a highly substantial impact on CSAD, as shown in the table above for the 2020 period.

(e) 2021

Table Regression results with CSAD

CSAD	coefficient	S.E.	T-S	P-V	Sig.
Rm_squ	-0.147	0.004	36.01	0.000	***
Rm_abs	0.042	0.035	1.18	0.238	
R-Sqr	0.860				
F-test	648.99				
No of observation	213				
Probability > F	0.0000				

**p<0.1; **p<0.0 5; ***p<0.01*

There is herding because of the positive stock return square value of -0.147, which also has a highly substantial impact on CSAD, as shown in the table above for the period of 2021. The findings demonstrate that there is no heteroscedasticity between the two variables.

Macro-economic variables analysis based on RM by assigning the CSAD 0, 1 during the period 2017-2021

Table Regression results

RM	coefficient	S.E.	T-S	P-V	Sig.
Quick Ratio	-0.074	0.098	-0.75	0.047	**
GDP	-0.003	0.099	-0.04	0.021	**
Exchange Rate	-0.007	0.034	-0.22	0.068	*
GP	0.078	0.004	0.00	0.097	*
CSAD	-0.032	0.054	-0.60	0.050	**
R-Sqr	0.5601				
F-test	0.45				
No of observation	44				
Probability > F	0.809				

**p<0.1; **p<0.0 5; ***p<0.01*

The Quick Ratio -0.074, GDP -0.003, exchange rate -0.007, and CSAD -0.032 has an inverse association with stock returns, as shown in the table above which implies that when their values decrease, stock returns will rise. However, the gold price -0.078 had a direct impact on stock returns throughout the period of 2017–2021.

DISCUSSION AND IMPLICATIONS

Although there is conflicting evidence linking herding and stock returns, the current study's conclusions have full support from past research. This study demonstrates that the textile industry exhibits herding behavior. Herd behavior has been found to have an impact on stock returns in both good and negative ways (Jeon and Moffett, 2010; Celiker et al., 2015). Stock returns suggest a detrimental herding impact because of price volatility (Sias & Starks, 1997). Additionally, investors frequently raise their stock investments over the short term, which generates high returns, as a result of their poor capacity for information comprehension. On the other hand, as they have the time to consider information over time, investors may decide not to invest or believe that stock investments are a wise choice. Literature has also demonstrated that herd behavior makes long-term returns less likely to occur and predicts short-term returns favourably (Dasgupta et al., 2011).

The contradictory results of earlier studies are also supported by Zheng et al. (2015), who discovered the link between stock returns and herd behavior and its long- and short-term benefits. Other research, including that from Pakistan, which also discovered a positive short-term correlation between exchange rate and stock returns and a negative long-term correlation (Mitra, 2017; Türsoy, 2017; Ndlovu et al., 2018), supports the findings of this study. The results of this study have ramifications that are consistent with past studies that have demonstrated both positive and negative effects of GDP, Quick Ratio, gold prices, and CSAD on stock returns. Although rising gold prices occasionally have a beneficial impact on stock returns, it is more common for them to do the opposite. The impacts of the exchange rate and the herd on stock returns were equivalent. The study shows that herding occurs in stock markets and the results indicate that CSAD affected stock returns in both positive and negative ways, over the long term and over the short term. There is proof that herding happens in the stock market, which is consistent with our findings.

The limitations of the current study seem to be that information will only be acquired through the financial reports of textile manufacturers on the Pakistan Stock Exchange. This study excludes unlisted companies from the Pakistan Stock Exchange. Because of the limited generalizability that results from using data from the Pakistan Stock Exchange due to time restrictions, our studies' conclusions will only be used in Pakistan. The current study has some limitations, such as the exclusion of other industries and its focus solely on the textile sector. In compliance with university rules, we restricted the scope of our sample to particular sectors of the economy. Similar to other manufacturing industries, they could

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choose a few industries to learn about concurrently in the future. The analysis's sample size is restricted to the Pakistan Stock Exchange and to textile industry investment sectors at the sector level that exhibit herding behavior, ignoring investment sectors at the market level. The majority of companies are currently listed on the Pakistan Stock Exchange (PSX), but for the purposes of this study, only textile companies will be considered, including, but not limited to, Nishat Mills Limited, Kohinoor Mills Limited, Sapphire Textile Mills Limited, Fateh Industries Ltd., Ali Asghar Textile Mills Limited, and Gull Ahmad Textile Mills.

CONCLUSION

The study also implies that herding is an important factor, one that is difficult to eliminate, Herding behavior can be brought on by a lack of expertise, similar investor expectations, and inadequate comprehension, among other factors. Additionally, if investors suspect there may be a doubt regarding the accuracy of the information, they may behave in a herd. If investors are well-versed in the market, herding behavior may be reduced. Since they can easily access the information, they require about fluctuations in stock prices in the stock market and utilize it as a foundation for their investment studies, this shows that investors are more inclined to pay consideration to fundamental information while making investment decisions. This investigation shows that stock purchasers still consider and rely on corporate financial reports as crucial information when deciding which businesses to buy in the textile sector of the Pakistan stock market. Financial behavior becomes a psychological applicability for financial decision-making and financial markets when this research is linked with behavioral finance theory.

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