INVESTOR SENTIMENTS AND STOCK RETURNS IN EMERGING MARKET: EVIDENCE FROM PAKISTAN STOCK EXCHANGE (PSX)

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ABSTRACT

Research is being done to determine whether investor mood has a substantial influence on Pakistan's diverse industry returns. Investor sentiment research mostly focuses on the stock market, with little emphasis given to how investor sentiment affects returns in particular industries. Using Principle Component Analysis, our research work used a repetitive variable to investigate the association between investor sentiment and the equity market returns of a certain sector. Study discovers a correlation between market investor sentiment and selected industrial returns. According to the intended research, investor sentiment can be divided into two categories: optimistic and pessimistic. The findings reveal that optimistic investor sentiment positively affects equity returns in the cement, textile, and auto industries, while pessimistic investor sentiment has no impact on stock returns in the food, fertilizer, power, pharmaceutical, and oil industries. For the time period spanning 2017–2021, we used the most recent statistical method, the Markov Switching Model, to examine the robustness of long-term correlations among the research variables. Additionally, the consequence of the optimistic and pessimistic states on the profits of various Pakistani businesses is also looked at. The findings showed a substantial relationship between industry performance and investor sentiment. Keywords: Investor sentiments, behavioral finance, stock returns, leverage effect, Markov Switching Model.

INTRODUCTION AND THEORETICAL BACKGROUND

Decision-making in all areas of life is greatly influenced by human psychology that investors may be influenced by their own sentiments and emotions while making decisions. Behavioral finance is an emerging field within finance that incorporates the human aspect in decision-making on financial problems (Zahera, & Bansal, 2018; Costa et al., 2019; Bisati, et al., 2021). The field of behavioural finance developed in the 1970s, and a great deal of study has been done on it since then (Costa et al., 2019; Singh, Babshetti & Shivaprasad, 2021). Behavioral finance is a thorough examination of the mistakes made by investors while making financial decisions and how they may impact future stock prices and returns (Bhardwaj, 2021; Ahmad, 2021) People differ in their personalities and approaches to making financial decisions, even when it comes to investing in the stock market (Bisati, et al., 2021; Goyal and Kumar (2021) Additionally, behavioural finance researches the elements that may influence investors' choices regarding their investments, including whether or not to participate in the stock market (Sharma, & Kumar, 2019; Zahera, & Bansal, 2018) The motivations underlying these investing decisions are also investigated by behavioural finance.

According to the traditional theory of finance, asset prices are not influenced by investor mood since stock markets are fully efficient, financial market participants are rational, and securities prices correctly represent knowledge about the financial market (Hon, Moslehpour, & Woo, 2021). Behavioral

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finance tends to maintain the view financial decisions, rejecting the notion that investors are perfectly rational (Shukla, 2021; Greenberg, & Hershfield, 2019). This leads to biased thinking while making financial decisions. As a result, it is possible to draw the conclusion that investor attitudes might be the idiosyncratic risk factor that affects stock returns. Investor sentiment has been shown by Bradford De Long et al., (1990) to be a fundamental factor that affects the equilibrium price in.

There has been an increase in sentiment-related studies in recent years. However, a significant portion of these research adopt a deceptive strategy. The analysis of other variables (Kurov, 2010; Kaplanski & Levy, 2012; Kaustia & Knupfer, 2012) or particular events, such as sporting events (Chang, Chen, Chou, & Lin, 2012; Curatola, Donadelli, Kizys, & Riedel, 2016) and religious celebrations (Biakowski, Etebari, & Wisniewski, 2012), has revealed the likely impact of sentiment on returns. The sentiment that was inferred using the above-mentioned techniques might not accurately reflect investor sentiment or might be represented incorrectly. Thus, there is still much to be done to directly examine the relationship between sentiment and stock performance. By specifically looking at the impact of sentiment on stock returns, we directly explore this area of sentiment studies.

In a recent study, Aissia (2016) looked at how sentiment among domestic and overseas investors affected stock returns on the French stock market. Additionally, Liston (2016) provides evidence that the sentiments of both individual and institutional investors affect the returns on sin stocks. Tsai (2017) goes a step further and investigates the perceptions of three different institutional investor groups (foreign investors, trust investors, and dealers) on the Taiwan stock market. Similar to this, we build on past sentiment research by include market and stock level sentiment as additional aspects of sentiment.

The majority of prior research has focused on either the sentiment of the stock market (Miwa, 2016) or specific equities (Sayim, & Rahman, 2015). In contrast to other papers, this one examines market and stock-level attitudes in relation to industrial specific returns. For their analyses, researchers have primarily relied on portfolio returns or aggregate market returns that have been classified according to particular criteria, such growth. Industrial level stock returns are used as the dependent variable. Additionally, we employ panel data for the study, which enables us to fully utilise the data. We adopt a long-term view, unlike previous studies, and employ annual returns rather than monthly or weekly returns. The US stock market has received a lot of attention in previous studies, including those by Baker & Wurgler (2006), Lemmon & Portniaguina (2006), Abdelhédi-Zouch, Abbes, & Boujelbène (2015), and Smales (2017). We think that by studying emerging Asian markets, we can concurrently fill up the gaps in the literature that exist between emerging markets and Asian markets.

The goal of the current endeavour is to understand how psychology and human behaviour affect Pakistan's many sectors. There are the behavioural finance ideas put out by Delong, Shellfire, Summers, and Waldmann (1990) on the sentiment of traders in the financial markets. To prevent arbitration, it is highly challenging to foresee or gauge the variations in investor sentiment. Assets and securities carry a higher level of risk, which makes them more vulnerable to noisy traders' risk. Since premium differentiation entails a high level of risk, investing in more financial assets and securities also offers investors a higher return. The idea aims to anticipate how investor attitude may impact security pricing. The Pakistani financial markets operate using the same principle. Investor sentiment should be estimated element to closely forecast securities return. The goal of the current study is to determine how much investor attitudes contribute to the valuation of stock returns of Pakistan Stock Exchange. Based on theoretical underpinnings the Research questions of the study are;

- 1. How can the textile, auto, fertiliser, food, cement, pharmaceutical, transportation, and power industries in Pakistan be categorised in terms of investor sentiment?
- 2. To determine whether Karachi Stock Exchange is acting normally, optimistically, or pessimistically from 2017 to 2021.

Investor sentiment studies tend to concentrate on stock markets and pay less attention to how investor sentiment affects sector returns. This study's goal is to use principal components analysis to look at the relationships between investor sentiment and particular industry results. The primary goal of this study is to build a framework for thinking about how conditional volatility in investor sentiment forms. This study examines the effect of investor emotions on several Pakistani sectors. to verify the claim in order to determine if investor mood changes have a major impact on stock returns across different industries, the Markov model is utilised.

The importance of the current research rests in the idea that it is crucial to consider behavioural aspects when determining stock price components and designing returns portfolios in Pakistan. This will aid in the greatest possible comprehension of the country's financial markets. This study differs from earlier studies in a number of ways. In this study, the first returns-wise variation brought on by emotions will be considered. The industry return index will be calculated as a measure of industry revenues for each industry under examination, and the investor sentiment index is calculated as a stand-in for investor sentiment.

Our research aims to observe the return analysis of several Pakistani businesses, which represents revenue changes in the industries in relation to investor opinion. The current effort will provide precise information on industry return patterns in connection to investor attitudes for investment decisions in the future. Based on investor opinion, this paper separates the industries in Pakistan. The companies registered on the Pakistan Stock Exchange as well as the industries for which data will be obtained through the Pakistan Stock Exchange website are the part of sample testing in this study.

REVIEW OF THE EMPIRICAL STUDIES

There are several studies that only depend on contemporary ideas to analyse the effects and results of emotion and sentiments on human provisioning, decision-making, and the creation of investment strategies. The "risk as feelings" argument, put out by Loewenstein et al., (2001), contends that when decisions have high risk and high uncertainty, people's emotions and feelings have an impact on such decisions. The "risk as feelings" hypothesis contends that emotional attachments, which define and regulate human behaviour, have a substantial impact on decision-making processes when cognitive and emotional evaluations and reactions disagree (Simon, 1967; Lowenstein et al., 2001; Khemka, 2021). In contrast to investors who are in a negative mood, Wright and Bower (1992) found that investors in a good mood are more positive about their decisions. These studies demonstrate that changes in investor emotional states have a significant impact on market prices.

The intents and expectations of investors are referred to as investor sentiment. These feelings, according to Chau et al., (2016), are what lead to abnormal swings in risk tolerance that are excessively gloomy or excessively optimistic in regard to asset expectations. Whether negative or positive, sentiment can lead to a price deviation from an asset's inherent worth. The effect, however, is difficult to measure, and issues (such as how strong this feeling is or how quickly it is changing right now) are made more challenging by the vast variations in interpretations among investors, caused by factors ranging from investment style to wealth status. A noise trading model was put forth by Han et al., (2016) as a result of the difficulties in foreseeing traders' moods. They believed that noisy trader mood was constantly present in the financial market and was a systemic risk element that could at any point start to visibly influence asset pricing.

By fusing the concepts of psychology and finance, other scholars have attempted to comprehend investor mood. According to Ye et al., (2020), sentiment develops when investors rely on their own limited knowledge of the market and cognitive psychology. According to Brown and Cliff (2004) and Haritha and Uchil (2019), investor sentiment reflects each investor's unique expectations for the rate of return on the market. For instance, investors with high levels of optimism anticipate higher yields than do investors with low levels of optimism. The psychological speculative propensity has been connected to investor sentiment by Baker and Wurgler (2006) and Piccoli and Chaudhury (2018). Increasing investor mood increases interest in speculative trading, regardless of how well the equities in issue can be arbitraged. Therefore, this type of speculation affects every segment of the market.

P. Corredor et al., (2015) study how investor sentiment affects stock returns for two Central European stock markets. Hungary, Poland, and the Czech Republic are some examples of nations. Findings show that trading activity in sample stock markets is significantly influenced by investor mood as it relates to stock prices. For European nations with robust stock markets, feelings have a stronger impact. Results are connected to stock characteristics. The results show that there is not a consistent impact for the sample nations, and that national factors also vary. As a result, emotions have both local and global impacts, with global effects having a greater impact than local effects.

Mustafa, and Hamid (2015) investigated the impact of Turkish citizens' investor sentiments on the Istanbul equity market to determine the connexion between investor sentiment and stock return volatility. The monthly Turkish Consumer Confidence Index is used as a stand-in for the opinions of individual investors. Investor attitudes were regressed with market results to examine the impact of macroeconomic conditions. Additionally, vector auto regression (VAR) was utilised to analyse stock return variations brought on by Turkish investor sentiment Findings show researchers that high profits are produced when investor mood is good. In contrast, low investor confidence has a detrimental impact on stock market volatility. This supports the bullish stock market behaviour in Turkey. As a result, optimism increased the establishment of positive expectations and reduced the volatility in the representative equity market returns.

According to Hauang, Jianig, & Zhou, (2015), investor distress and greediness can have an impact on the market's performance since people's attitudes have an effect on the decisions they make when it comes to investing. The greatest way to study the feelings of investors is through computation. The volatility of the market, which is viewed as a traditional signal for sentiments, can be better predicted using sentiments indexes. Regression modelling is used by Xin, Zhong, and Jun (2015) to examine the impact of attitudes on the Chinese stock market. The influence of investor attitude on the results is important. Short-term and long-term effects of investor sentiment are distinct. While the influence is hugely good in the near term, it is detrimental and minimal over the long term. Results are consistent with the reversal effect for the overreaction of the Chinese stock market to investor emotion. Additionally, they confirm that there are biases in the Chinese equity markets.

Kima and Parkb (2015) examined the relationship between stock returns and individual investor disposition on the Korean stock market. Results show that individual investor attitudes have little bearing on stock returns, but they do hint that individual investors' sentiments might affect stock prices to some extent, which in turn affects the liquidity of the stock market. Sentiment has an impact on short-term results and increases stock liquidity. Results do not significantly differ from the predictability of individual investors over the near term since other factors also influenced variances in stock performance.

For the purpose of creating an investor trading sentiment index (ISI), Yang and Zhou (2015, 2016) combine the RSI, ATR, psychological line indicator (PSY), trading volume (TV), and the BSI. They discover a strong correlation between stock performance and investor sentiment. Apergis and Rehman (2018) developed an ISI for S&P 500 Index businesses based on Baker and Wurgler's Investor Sentiment Index (2006). They demonstrate a strong correlation between investor mood and the CAPM asset pricing technique residuals.

A customer expectation index for the business cycle, customer deposits, a log of turnover rate, and the proportion of newly issued stocks in the KOSPI market were used by Kim and Byun (2010) to build an ISI. They demonstrate a connection between investor sentiment and the market's reaction to a stock split announcement. In their 2017 study, Ryuet al., developed an ISI utilising the RSI, PSY, log of trading volume, and ATR and used the BSI as the investor trading behaviour index in the KOSPI market. They discover that investor mood affects stock returns favourably and that it is a more accurate predictor of stock returns than investor trading activity.

Seoket et al., (2019) assert that firm attributes contribute to the relationship between stock returns and investor sentiment in the KOSPI market. They find that investor sentiment is positively connected with future stock performance in the short term. Additionally, they find that for companies that are more difficult to value, such as those that are smaller, more volatile, have higher BMs, or have fewer arbitrageur trades, the positive association between investor sentiment and future returns is more pronounced. Studies have demonstrated that investor optimism and pessimism cause changes in stock prices, which in turn affect stock returns (Baker, & Wurgler, 2006; Li et al., 2020). Researchers Stambaugh et al., (2012) and Renault (2017) discovered that the long-term anomaly method was more successful after a high-mood phase than after a low-mood period. According to Sun et al., (2016), investor emotion showed limited predictive power over stock returns during a recession. Additionally, changes in investor mood can alter investors' perspectives, have an impact on their investing choices, and shift stock prices (Stambaugh et al., 2012; Sun et al., 2016).

Prior research has focused on the connection between investor sentiment and stock returns, including the identification of proxy variables that most accurately capture investor sentiment and the impact of certain firm features on this relationship. There is no study on the connection between investor attitude and the quickly shifting market environment, therefore efforts to translate the findings of this research into business practise have so far fallen short. In order to ascertain whether the chosen industries are more susceptible to changes in investor sentiment or not, such as the increased participation of traders' sentiment in the stock market average undercut trade variation of the most

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dramatically, our research study aims to examine whether the unconditional volatility is caused by changes in investor sentiment for various industries. In contrast to previous studies, the primary goal of this one is to evaluate the impact of investor attitude on the returns of unconditional stock markets linked to selected businesses.

RESEARCH DESIGN AND METHODOLOGY

Data for the study variables will be gathered from the websites of the State Bank of Pakistan, Securities and Exchange Commission of Pakistan and the Pakistan Stock Exchange. In the current study, we selected eight industries as a sample, including textiles, food, energy, fertilisers, autos, cement, and oil & gas. The sample consists of 42 publicly traded KSE 100 index businesses that operate in the selected sectors. These industries were chosen since they computed a significant portion of the KSE 100 index and accurately reflect the fluctuations in the KSE. The availability of data influences the selection of the sample firms (convenience sampling). Monthly data from 2017 through 2021. A composite index of investor sentiment will be created for analysis.

Our research work adopted six variables to calculate the investor sentimental effect index which include the close end mutual fund discount rate, the number of initial public offerings, the first day returns of initial public offerings, newly issued stocks, and the average monthly turnover in the Pakistan Stock Market. Including the dividend premium, KSE turnover, number of IPOs, closed end mutual fund discount rate, IPOs First-day returns, and equity share of new issues, Baker and Wurgler (2007) utilised six factors to measure investor mood.

Operationalization of the study Variables

Closed-End Fund Discount.

Closed-end mutual fund markdown rate (abbreviated as CEFD) is the weighted average of the difference between the net asset value of the equity shares of these funds and their market prices.

$$CEFDt = \sum n i = 1 ((P it - NAVit) / (NAVit))$$

$$n$$

Turnover

Stock turnover (represented by TURN), TURN is the evidence of the turnover of the company's stock.

Dividend Premium

The difference between the ratios of record average market value to book profits for payers and nonpayers is the premium earnings (represented by DP).

$$DP = \frac{\Sigma M.V}{\Sigma B.V}$$

First-day Returns of Initial Public Offerings

The average return on the first day of IPO proceeds during this time is the first day return of IPOs (represented by FDRIPO).

Initial Public Offerings.

Initial public offers (IPOs) are the total number of initial public offerings that took place during a given year for the sample company or industry.

Equity based Issues over Total New Issues

In addition to the issuance of debt instruments, the share of stock in the new issues is simply a version of the monthly total equity divided by the gross monthly stock.

Constructed Model

The Creation of Investor Centred Sentiment Index Sentiment based Index = $a+b_1(DP)+b_2(NOIPO)+b_3(CEMFD)+b_4(FDRIPO)+b_5(KSET)+b_6(EQSHARE)$ Where; DP=Dividend Premium NOIPO= Number of preliminary public issues in a particular year CEMFD= Closed end mutual fund discount FDRIPO= First day return on initial public offering **KSET**= Share turnover in Karachi stock exchange

EQSHARE= Equity shares in total equity and long-term debt issuance

Creation of Industry return Index

Market value = Number of issued shares * share price

To calculate the industry specific return index, principal component analysis (PCA) will be used to determine the market values of all sample businesses incorporated in the selected industries.

Result of Investor Sentiment on Industrial Return

To investigate the impact of investor mood on the revenues, the weighted index approach will be used to create the industry's first industries revenues index for all industries. We use the following simple regression model to estimate the return index for each industry:

The regression equation

 $Y = \alpha + \beta x$

Where;

Y= Industry returns

x = Investor's sentiments

Result of Different States of Investor Sentiment on Industrial Returns.

Investor sentiments may be divided into two categories to analyse the effects of various investor sentimentality levels on industrial returns. Pessimism and optimism This distinction between optimism and pessimism is formed according to the Investor Confidence Index, which is known as the month of optimism when it is larger than zero and as the month of pessimism when it is less than zero. Using the Markov switching model system, industry estimates that the impact of investor mood is both optimistic and pessimistic about the return. It was based on a Markov switching model that uses a shift mechanism to merge several dynamic Markov models.

Simple ZT variable switch model has two requirements AR:

zt = a0 + Bzt-1 + et	st = 0
zt = a0 + a1 + Bzt-1 + et	st = 1

In the equation above, B = 1 and et stand for random error. When st = 0, the stationary process AR (1) has a mean value of a1/(1-B). When st shifts from 0 to 1, AR (1) has a mean value of (a0 + a1)/(1-B). This demonstrates that according to a10, the current model follows two dynamic structures at various levels that rely on the values of the state variable st. In this paradigm, st categorises transitioning between two regimes or distributions, whereas zt categorises two distributions with distinct mean values.

Empirical Findings Table No. 1 Descriptive Stat Results

Var	Mean	Std. Dev.	Skew	Kurt	Jar-Bera	Observations
CEFD	-0.015	0.016	7.212	61.35	317.93**	190
DP	4.680	3.468	2.151	6.539	49.498***	190
RIOP	2.141	16.21	15.30	158.9	244.30***	190
TRUN	3.448	0.787	-2.12	7.533	167.23***	190
EQSHARE	0.892	2.611	0.769	2.583	36.820***	190
NIOP	0.489	0.928	2.371	9.139	248.06***	190

Notes: ***, ** , and * denote, respectively, significance at the significance level of 1%, 5%, and 10%.

The average of a series is the result of dividing the total number of observations by the total number of dates collected in the series. For all other variables, including DP, RIOP, NIPO, TRUN, and EQUARE, the mean value is positive except for CEFD, where it is negative. Dev. Std. The measure of numerical dispersion and spread in a series is known as the standard deviation. First-day returns had the largest variation, according to the results in the table, while the remaining variables, including DP, CEFD, IPO, TURN, and EQUARE, have smaller differences. Skewness for a normal distribution is equal to 0. According to the results in the table above, the variables DP, CEFD, IPO, RIOP, and

EQUARE have positive skewness, indicating a long right tail distribution, whereas the variable TURN has a negative skewness, indicating a short right tail distribution.

As may be noted, mean values of all variables are positive. Market sentiment has a higher mean value than stock-specific sentiment, indicating that investors may be more optimistic about the market as a whole than about particular stocks. It should be emphasised, too, that stock-specific sentiment variability is higher than market-wide sentiment variability.

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	CEFD	DP	RIPO	TURN	EQSHARE	NIPO	
CEFD	1						
DP	-0.261*	1					
RIPO	229	0.224	1				
TURN	0.113	0.269**	0.405	1			
EQSHARE	-0.193	0.327**	0.543**	0.306*	1		
NIPO	-0.080	0.274*	0.515**	0.291**	0.676**	1	

 Table No. 2 Correlation Matric of Selected Indexes

Notes: ***, **, and * denote, respectively, significance at the significance level of 1%, 5%, and 10%.

According to a correlation study of each variable in Table 2, each index is relatively intricately related to the others. For instance, each of these pair's agent CEFD and DP variables, CEFD EQSHARE, CEFD and NNIPO, and RIPO and DP all have a negative association with each other. Depending on which of the six variables for each agent has the highest correlation, Sentt is built as a significant part of the correlation matrix. This suggests that stock-specific sentiment may affect stock returns more so than general market sentiment. This is also evident in the regression results shown in section, which are further investigated and discussed.

Table 2 demonstrates the development of each agent for CEFD, NIPO, RIPO, TURN, EQSHARE, and DP, which all have high correlation coefficients. With the help of principal components analysis, we look at six indicators, and the results lead to the composite confidence index Sentt equation shown below.

Sentt = -0.1443CEFD+0.6151NIPO + 0.1016RIPO + 0.2989TURN + 0.342DP + 0.6198EQUARE	
Table No. 3 Industry Specific Return Stats	

	Mean	Std. Dev.	Skewness	Kurtosis	JarqueBera	Adf-t
AUTO-Industry	0.125	0.397	-3.447	43.14	12.37	-17.10**
CEMENT-Industry	0.049	0.318	-1.758	16.20	13.92	-11.85**
FERTI-Industry	0.063	0.253	-2.347	17.72	17.80	-15.44**
FOOD-Industry	0.026	0.147	-0.187	5.911	64.24	-4.563**
OIL-Industry	0.033	0.130	-0.214	10.10	37.80	-13.07**
PHARMA-Industry	0.053	0.140	-0.587	7.020	13.89	-13.19**
POWER-Industry	0.037	0.070	-0.661	7.088	13.73	-13.32**
TEXTILE-Industry	0.052	0.250	-2.345	23.63	33.41	-13.34**

Notes: *** , ** , and * denote, respectively, significance at the significance level of 1%, 5%, and 10%. According to Table 3, the cement sector has the maximum average monthly revenue, followed

by the automotive, cement, fertiliser, food and oil, medicines, energy, and textile industries. The average monthly revenue for the fertiliser, food and oil, medicines, energy, and textile industries is the lowest, with a mean value of less than zero. The average monthly revenue for the energy stock is the highest. Fluctuations in other industries expose cement on a bigger scale since it is correlated with a high yearly demand in the real estate sector.

Industry	Parameter estimate	SE	t Stat	adj – <i>R</i> 2
AUTO-Industry	0.0135***	0.0031	3.7	0.0794
CEMENT-Industry	0.0146***	0.008	2.3	0.3069
FERTI-Industry	0.0174*	0.0075	1.9	0.2063
FOOD-Industry	0.0138*	0.006	2.1	0.1626
OIL-Industry	0.0236*	0.008	2.7	0.1899
PHARMA Industry	0.0176*	0.008	2.2	0.1962
POWER Industry	0.0164**	0.0007	2	0.137
TEXTILEIndustry	0.0178***	0.0058	3.4	0.0978

Table No. 4 Investor sentimental effect on industrial returns

Notes: *** , ** , and * represent, correspondingly, consequence at the significance level of 1%, 5%, and 10

The estimated values for 8 industries are displayed in Table 4. It displays the effect of market mood on the earnings of particular sectors. The findings show a strong and positive correlation between market mood and an industry's return. Market sentiment was more upbeat than it was during the present era, which resulted in higher demand for the stock number and, in turn, higher returns on the stock, with the cement industry seeing the highest influence on investor morale with a parameter of 0.1069 estimate. This can be because of the industries that are closely tied to the construction and commercial real estate sectors. When the building business is doing well, cement trade has greatly grown. Cement equities are in considerably less demand when commercial real estate suffers losses. Investor sentiment had a substantial influence on the textile and car industries' results as well. 0494. Investor emotions have a negligible influence on the power industry (0.037 at 5% significance level). At a 10% significance level, investor attitudes have little bearing on the returns of the remaining industries. The findings of the study are largely consistent with those of Brown and Cliff (2004) and Singal (2012).

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	Regime		Statistic	Std. Error
Ir	Pessimistic	Average	3.3343	.08331
Ive		Median-V	2.0126	
stor Sent	Variance-V	.840		
	Std. Dev	.5988		
	Skew	.311	.317	
ime		Kurt	-2.004	.589
Optimistic	Average	6.2776	.41761	
î In	_	Median-V	5.8921	
Ide		Variance-V	8.027	
~	×	Std. Dev	3.2272	
		Skew	7.361	.389
		Kurt	47.319	.677

According to Table 5, industry returns are higher during an upbeat than during a downbeat era. In the sample period, there are 110 months of pessimistic investor sentiment and 70 months of optimistic investor sentiment, with the average market returns being 5.1823 and 2.1548 respectively. Between the two, there is a 3. This result is consistent with previous studies that find that investor sentiment has a greater effect in alternative regimes (Baker, & Wurgler, 2006).

Variable	Coefficient	Std. Error	z-Statistic	Prob.
Regime 1				
R-TEXTILE	0.759	0.06	12.17	0.000
R-POWER	-1.59	1.61	-0.98	0.323
R-PHARMA	0.65	0.87	0.74	0.456
R-OIL	1.06	0.09	11.1	0.000
R-FOOD	0.23	0.71	0.33	0.739
R-FERTI	0.54	0.90	0.60	0.546
R-CEMENT	0.71	0.05	13.0	0.000
R-AUTO	0.04	0.04	1.04	0.097
Regime 2				
R-TEXTILE	-20.7	5.63	-3.67	0.002
R-POWER	-41.8	35.3	-1.18	0.236
R-PHARMA	3.53	8.39	0.42	0.674
R-OIL	-20.6	17.4	-1.18	0.234
R-FOOD	6.10	8.84	0.69	0.489
R-FERTI	28.1	17.7	1.58	0.112
R-CEMENT	13.2	5.82	2.28	0.022
R-AUTO	-14.5	13.9	-1.04	0.295
Mean dependent var	3.33	S.D. dependent	var	2.281
S.E. of regression	2.39	Sum squared res	sid	919.1
Durbin-Watson stat	1.65	Log likelihood		-337.2
Akaike info criterion	3.99	Schwarz criterio	on	4.347
Hannan-Quinn criter.	4.13			

 Table No. 6 Impact of investors sentiment on industrial performance

Regression analysis employs the Durbin-Watson test to identify autocorrelation. Since the number in the preceding table is close to 2, the Durbin-Watson statistic of 2 indicates that there is no autocorrelation and hence no correlation between the variables. The Markov process is used. We analyse transitions from state that significantly influences the transactions to obtain the industry returns. The two states of sentiment are estimated and are provided in Table 4.6 with developed states. In Table 6, the impact of investor attitude on stock performance for different industries differs in bull and bear markets. In a bull market (optimistic state), the impact of investor sentiments on industry returns is significant for the textile, oil, cement, and auto sectors. However, this is not the case for the remaining sectors, which include the food, fertiliser, power, and pharmaceutical sectors. In a bear market scenario, investor sentiments are negatively impacted on the returns of the textile and cement sectors.

Industries grew during a bull market because investors had a lot of interest in and preferred buying their shares from these industries. As a result, in this instance, these industries are heavily affected by investor sentiment. Investors prefer to steer clear of these stocks during weak markets, making investor sentiment less of a factor in the stock returns of these functional industries. The impact of investor attitude on the returns from the food, fertiliser, energy, and pharmaceutical industries is smaller when there is a bull market, although it is also not very noticeable when there is a market drop. Oil and the automotive industries are significant when the influence on market sentiment returns. This could be the case because the oil and car sectors are particularly susceptible to changes in global economic conditions and stock market trends, and investors tend to increase their investment in resource companies when conditions are favourable, making the stock less prone to risk. As a result, investor mood appears to have less of an impact on stock prices during a bull market than it does during a bad market.

The impact of general market sentiment on particular markets, if any, depends primarily on the industry. Our results for the sentiment of the entire industry are consistent with Schmeling in this regard (2009). Schmeling (2009) shows that for a sample of chosen sectors, the impact of mood differs dramatically from industry to industry. The fluctuation appears to be unrelated to country size and geography, as the author points out. As a result, we are unable to identify any immediately obvious reason for the cross-country variations.

CONCLUSION

In our study, we analyse the relationship between the specific industry returns and investor feelings by computing an investor sentiment index using principal component analysis. Results indicate that investor attitudes have a variable effect on stock returns depending on the sector of industry in Pakistan. While the correlation between investor attitude and industry returns appears to be strong for some sectors, such as the cement, textile, and car industries, it appears to be non-significant for the other sample sectors, such as food, fertiliser, power, pharmaceutical, and oil.

Investor behaviour is divided into two states, the optimistic state and the pessimistic state, based on investor mood. The pessimistic condition is characterised by the unfavourable investor behaviours, which have a negative impact on stock prices and stock returns but have little impact on industry returns. The favourable investor behaviours that have a beneficial impact on stock prices and returns for the majority of sectors define the optimistic condition.

A two-state Markov model was applied to eight sectors listed on the KSE 100 index in order to discover the shifting between the two states optimistic and pessimistic in order to explore the impact of investor mood on industry returns. Pessimistic investor states are linked to industry returns in a bull market, whereas optimistic investor states are linked to industry returns in a bear market. The Markov model's findings show that economic changes have a significant impact on the cement, textile, and automotive industries. A positive stock market will cause industries to flourish, and this development will appear to have a substantial impact on investor mood. Investors may want to restrict their holdings in certain industries during a bear market, which reduces the impact of investor mood on various businesses' performance. Investor attitudes have little bearing on stock returns in the food, fertiliser, power, pharmaceutical, and oil industries, in either a bull market or bear market. Every industry has its own unique traits.

The findings above leads to the conclusion that when building investment portfolios, different investor sentiment contributions over returns of various industries in various market conditions should be considered. Investor sentiments are a crucial point of reference for both individual and institutional investors when deciding how much money to allocate to various industries on the stock market.

The influence of investors disposition on stock market returns and volatility is examined in this study. The current study's findings are in line with those of Chen and Zhou (2001), Lowry and Schwert (2002), Mehra and Sah (2002), Brown and cliff (2004), Kumars Crowny (2006), Frooty and Theo (2008), Edelens, Marcus, and Tehraniand (2010), and Tripathi (2010), who examine the relationship between sentiments and returns and confirm the influence of emotions over returns. According to earlier studies by Canbas and Kandir (2009), Schmeling (2009), Zouaoui et al., and others, investor attitude has a significant impact on returns (2010). According to Finter et al. (2010), who examined the impact of investor attitude on stock returns, emotions have a big impact on stock prices. The findings are consistent with numerous research that look at the relationship between stock market mood and returns, and the vast majority show a strong relationship between factors. Zhang, Fuehres, and Gloor (2012); Bollen, Mao, and Zeng (2011); Joseph, Babajide, Wintoki, and Zhang (2011); Liu et al. (2011); Baker et al. (2011). Complete market condition consistent with investor expectations and current feelings.

The results support the idea that investor mood predicts market returns rather than individual stock diversions from intrinsic value (Arifa & Crowns, 2014; Yu, Huang, & Hsu, 2014; Uygur, & Taş, 2014; Asness et al., 2013; Moskowitz et al., 2011). demonstrates the impetus in the risk-reward relationship and the impact of investor emotion on the results relative to different economic sectors. Overall, these results offer empirical support for the behavioural finance hypothesis, which claims that

investor emotion has a big influence on stock market performance. Additionally, this research confirms earlier results that the stock markets are significantly impacted by investor sentiment (Baker, & Wurgler, 2006; Brown, & Cliff, 2004, 2005; Calafoire, 2010; Qiu, & Welch, 2006; Verma, & Soydemir, 2006).

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