IMPACT OF INVESTOR SENTIMENTS ON FIRM'S FINANCIAL DECISIONS AND PERFORMANCE: A CASE OF PAKISTAN

Muhammad Hammad^{*1}, Dr. Muhammad Shaukat Malik²

^{*1}PhD Scholar - Institute of Banking and Finance (IBF), Bahauddin Zakariya University, Multan, Pakistan ²Dean, Faculty of Commerce, Law & Business Administration & Director, Institute of Banking and Finance, BZU, Multan, Pakistan

^{*1}hammadm86@yahoo.com, ²shoukatmalik@bzu.edu.pk

Corresponding Author: *

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ABSTRACT

This research attempts to explain the impact of investor sentiment on firms' financial decisions. By employing data of 217 non-financial listed companies of the Pakistan stock exchange, between 2011 to 2023, we attempted to uncover the impact of firm-specific investor sentiments on firms' financial decisions and performance. Result of research reveals a significant negative relationship between firm-specific investor sentiment and financial decisions. This certainly shows that due to market imperfections, investor sentiments may affect and reduce the investment tendency. This is due to misalignment between the firm's strategies and investor expectations. It is linked with macroeconomic structure, like capital constraints of the country, which generate a misfit between the firm's financial need and limited capital access. But found a significant positive relationship with firm performance. In addition to that, surprisingly, one of the investor sentiment measures shows an insignificant relation with financial decisions and performance. This research will help the investor to make an informed choice while investing.

Keyword: Investor Sentiments, Investment, Firm Performance, Investor Behavior *JEL Classification:* G1, G12, G14, G1

INTRODUCTION

Behavioural finance is a field of finance that applies psychological theories to the financial models and attempts to explain how investors take financial decisions in their lives. Daniel Kahneman and Vernon Smith in their work have discussed human judgment and how they take decisions under uncertainty (Pompian, 2012). In addition to that, prospect theory (Kahneman, 1979) the work of Kahneman together with Amos Tversky, is evident that investor value perceived gains and losses differently (Pompian, 2012). Therefore investor's decisions deviate from the predicted decisions of Modern Portfolio theory. Reason behind this discrepancy is that investor's decisions are induced by their personal sentiments and emotions. This Investor

sentiment is a general mood of investor which is driven by emotions. In the field of behavioural finance, investor sentiment is the area which is gaining attention of researchers. Because in theoretical behavioural finance field, investor sentiment analyse the investor reaction and the way they influence the market and corporate performance. The ultimate goal of any firm is to maximize shareholder wealth. It leads the manager to make financial decisions that every individual owner wants to make for his or her investment. The efficient market theory assumes that investors are rational and due to this investments will be appropriately priced. But in real world, empirical literature proves that due to emotional factors investment decisions taken



by investors are not based on rational grounds (Zhang & Wang, 2022). Such as, investor confidence changes the direction of firm's decision made by manager (Dong et al., 2021). Baker and Wurgler (2004) along with investor confidence, behavioral biases affect the decisions of the firm through their effect on investor and managers. Due to investor and managerial overconfidence firm's investment or capital decisions get affected.

Financial decisions are the critical decisions made by the firm's management. These decisions are made to reap maximum return by allocating financial resources to the right opportunity. A right financial decision paves a way for firm's development and success but on the other hand wrong financial decisions can pose a serious threat to the survival of firm. Therefore, shareholder hire managers to protect their interest and take such decisions that may increase their share worth and create value for the company. The agency problem occurs when managers work for their personal interest (Jensen & Meckling, 2019). Past researches also provide evidence that manager's interest in the organization deviate from the interest of shareholders. Therefore irrational movement of stock prices put pressure on company management to alter equity financing decisions which ultimately disturb investment level. The catering channel provide aid to these equity financing decisions to affect investment pattern through investor confidence (Du & Hu, 2020). In real market investor confidence motivate managers to enhance investment (Raut, 2020). Indeed, the agency theory postulates, the influx of free cash flow and unemployed debt discretion instigate managerial choices to invest more, due to which investment distortions increases (Oded, 2020).

One of the strategic actions that influence the firm performance is investment (Alam et al., 2020). Jiang et al. (2021) provided evidence that stock prices reaction is positive towards strategic investment decisions announcement like; joint ventures, R & D investment, capital expenditure and diversification decisions of firm. In simple words, firm's investment decisions announcement is a positive sign for investors that ultimately reflect in high value of firm. Moreover, there is a significant role of corporate governance practices along with investment decisions in increasing firm performance, because corporate governance practices are prominent determinants of firm growth and profitability. While firms with poor governance performance exhibit poor operating performance and stock market under performance (Agyei-Mensah, 2021) after conducting multiple regression analysis and documented a negative relation between financial experts on the board and firm investment decision. The findings imply that financial experts and independent board members contain overinvestment and ensure investment efficiency.

The purpose of conducting this study is to investigate the impact of investor sentiments on firm's financial decisions and performance. Because. understanding how investor sentiments affects the firm's financial decisions is crucial to potential investor in the market to manage their portfolio risk. Therefore investors are more vulnerable to sentiments waves in the developing economies where capital markets are rapidly growing. In addition to that developing countries are different in terms of economic microstructure, financial market structure, financial regulations, economic development and social system. So the aim of this research is to explore, how investor sentiments affect the firm's financial decisions then this will affect performance of firm as well. The novelty of this study is that it will measure the effect of firm specific investor sentiments on firm's financial decisions. The result of this research study will provide the clarity to investors and fund managers to opt best portfolio by considering the sentiments of investors for their investment amongst listed companies in different markets.

Researcher is intended to measure the relationship among the investor sentiments, firm's financial decisions and firm's performance. For this purpose researcher will perform the firm level analysis in which researcher will use firm level indicators; Average Turnover Rate (ATR) (Baker & Wurgler, 2006; Fu et al., 2021; Han & Li, 2017), Buy Sell Imbalance (BSI) (Kumar & Lee, 2006) and Price Earnings Ratio (PE) (Han & Li, 2017; ur Rehman, 2021). Fu et al. (2021) used these firm specific variables and developed



an investor sentiment index for their study by principle component analysis. Along with these three proxies we are taking stock overnight (close-to-open) return (Aboody et al., 2018; Kim & Suh, 2021) an additional proxy for investor sentiment as (Zhou, 2018; Zhou et al., 2021) confirm that stock overnight return is a suitable proxy for firm specific investor sentiment. In that for addition to measuring firm performance we will use market based Tobin's Q (Brahma et al., 2021; Butt et al., 2023; Chung & Pruitt, 1994) and accounting bases ROA (Guluma, 2021).

Research Question

Do investor sentiments positively affect the firm's financial decisions which ultimately reflect in firm performance?

Considerable amount of studies are available in past literature which either measures the impact of investor sentiments on share's liquidity(Dunham & Garcia, 2021), on stock return (Bissoondoyal-Bheenick et al., 2022; Gong et al., 2022; Wang et al., 2021) on corporate social performance (Naughton et al., 2019), and also with price earnings ratio (Rehman & shamsuddin, 2019), R & D Spending (Xiang, 2022) and stock return synchronicity (Chue et al., 2019). Other studies have measured the impact of market sentiment and financial decisions (Danson et al., 2019) and firm level equity return (Abdul Karim et al., 2022). However to the best of researcher's knowledge, there is no significant study in the past literature available that has measured the quantitative relationship of investor sentiments, firm's financial decisions and firm's performance.

Literature Review

Investor sentiments reaction of are а against noise rather individuals than information. According to Zhang (2008) the term sentiment is synonyms to investor's emotions, which can be refer as investor optimism and investor pessimism. Due to the emotional factors investor's beliefs change when they are exposed to noise in the market which is unrelated to fundamentals like market information and fundamental value of assets. In this way sentiments can be expressed as component of expectations about asset returns.

Based on this notion, investor often makes statistically incorrect decisions. For example, some investor become overconfident in their asset selection and ignores the market information and fundamental values of assets. Therefore, decisions based on noise rather than market information and fundamentals leads to spurious or erroneous decisions.

In our study, we are considering how the erroneous beliefs of investors lead individual investors to incorrectly use wrong information. As defined by Baker and Wurgler (2007), investor sentiment represents an investor's personal perspective or bias regarding the potential returns from risky investments, which not necessarily grounded in factual is information or rational analysis. Similarly, Zhang (2008) defined sentiment as follows: "Investor sentiment represents market participants' beliefs about future cash flows relative to some objective norm, namely the true fundamental value of the underlying asset." On the basis of above discussion we can define investor sentiments as:

"Market player's belief about expected future cash flows with respect to intrinsic value of the underlying asset, serving as a measure of their collective optimism or pessimism"

Current stock prices moves to new equilibrium whenever new information comes in markets and current price of security becomes equal to the fundamental value of security (Fama, 1965). Mathematically we can write it as:

$$P_t = E_t [P_{t+1} / I_t]$$

So, in the light of EMH, individual investor behaves rationally and quickly responds to available information while making investment decisions. That is the reason, investors does not reap abnormal return by exploiting the new information and brings efficiency in the market. In addition to that forces of arbitrage and self-interest quickly eliminate the irrational investors from the market(Zhang & Wang, 2022).

Behavioral Finance and Investor Sentiments

Although classical finance postulate that investor are truly rationale but in the real competitive arrow dynamic markets the misguided believes of investor or arbitrageur leads to suboptimal trading decisions. And the market imbalances provide arbitrage cushion to



aggressive arbitragers. However this is not always the case but contemporary research and psychological studies have proved that due to the presence of large number of investors in financial markets, the suboptimal decision making of investor cannot be eliminated. Both standard finance and behavioral finance refuse price equal value efficient market hypothesis but both finances support the hypothesis of hard to beat efficient markets. But hard to beat market is a market where some investors are able to beat the market and gain abnormal returns. Which is against the principle of classical finance (Statman, 2019).

The research on behavioral finance gain strength after the work of (Shiller, 2003), in which he explained the repeated occurrence of stock market bubbles and crashes with respect to behavioral finance. He explained finance in a broader social and psychological perspective. Contrary to Fama (1998) he suggested that efficient market model is valid only in ideal world because underlying assumption cannot be applied in real world. He argued that if investors want real understanding about the market and stock price movement they should incorporate behavioral aspects in their model. So, behavioral finance researches have studied the stock return in relation with investor sentiments and have provided empirical evidence about the effect of investor sentiments on stock market (Gong et al., 2022). They also have studied the market over-reaction and under-reaction as an effect of prevailing investor sentiments, volatility of stock return. Baker in 2006 conducted research on stock market and efficient market hypothesis and have documented a significant effect of investor sentiments on stock prices movement. Schmeling (2009) conducted research in 18 industrial countries to confirm the results of baker and wurgler. After conducting research internationally they confirmed the negative effect of investor sentiments on aggregate stock market returns and significant predictor of market return. Brown and Cliff (2005) conducted research on us and Japanese stock market and to measure the effect of investor sentiments on stock returns, used a proxy of investor sentiment by developing a sentiment index using daily mutual funds flow data. Yu and Yuan (2011) studied the relationship of investor sentiments and mean variance tradeoffs and have confirmed at the time of low sentiments, variance is related to excess return. (Szyszka, 2010) developed a generalized behavioral model, which explains the effect of behavioral variables on stock prices and also explained various anomalies present in the stock market.

Too many studies are available, which have measured the effect of investor sentiments. But most of the studies measure the effect in developed markets. The number of studies measured the effect of investor sentiment in emerging or developing market is few. Han and Li (2017) documented the effect of investor sentiments in emerging economy like china and have confirmed that investor sentiment can predict return at all horizons..

Firm Level Investor Sentiments

Effect of market based investor sentiment and firm specific investor sentiments have been the topic of research interest among the researchers. Past research have analyzed and modeled the effect of investor sentiment or behavior. There investor were certain limitations in modeling the investor sentiment, like the concept of "Noise" was difficult to measure and due to this later research used market co-movement as a sentiment proxy (Kumar & Lee, 2006). Further the chain of researches used more proxies for investor sentiments like; closed end discount fund, customer confidence index (Fisher & Statman, 2004), turnover rate (Baker & Stein, 2004), mutual funds flow (Ben-Rephael et al., 2012). However Baker and Wurgler (2006) developed a composite sentiment index and used sentiment as well as non- sentiment related components. Therefore to overcome the said limitation they employed six indicators for measuring sentiment; closed-end fund discounts, the turnover ratio, the number of IPOs, first-day IPO returns, dividend premiums, and the share of equity issues among total equity and debt issues. Chen et al. (2010) also developed an index for emerging markets and used multiple indicators (Short selling Volume, Interbank offered rate, and money flow index) for constructing sentiment index. Kim and Suh (2021) developed and used new firm specific investor sentiment based on



firm intraday and overnight returns. Although baker's index is widely used and acceptable index as a proxy for investor sentiments but it is not acceptable index for individual firms. That is the reason, yang and (Zhou, 2018) through principle component analysis suggested a firm level sentiment index for emerging markets which incorporated Relative Strength Index, Psychological Line Index, Adjusted Turnover Tate, and Trade Volume. Also, a substantial amount of work has been done in studying the effect of investor sentiments on firm level decision making but these studies utilized proxies of market based sentiments. Due to market variations, proxies become invariant and were not suitable to firm level disclosure (Aboody et al., 2018).

It is also critical to make proper investment strategy for the firm because firm's investment selection forms the most crucial part of its overall business decisions. Amidst global uncertainty and market downturn, investors' confidence can swiftly shift from optimism to rampant pessimism. When market sentiment turns sour, investors' confidence plummets, leading to a sharp decline in capital expenditures. The research reveals that market sentiment indicators have a profound impact on private firms' investment decisions. Elevated market sentiment fosters optimism among firms, driving an increase in business fixed investment, whereas low market sentiment can lead to reduced investment (Karim et al., 2024).

Investment Efficiency

Investment efficiency is measured as the predicted level of investment based on sales growth prospects. Any deviation from this expected level, either above or below, is regarded as inefficient investing, indicating a misalignment of resources with growth opportunities. As postulated by Modigliani and Miller (1958) framework, a firm's investment decisions should be solely dictated by its investment opportunities, which are quantified by Tobin's Q, a metric that captures the market value of investment relative to replacement cost. However, prior studies have revealed that, in real world markets, business investment often disperse from optimal levels due to various imperfections in the capital market, such as information asymmetry, transaction

costs, and liquidity constraints and agency problems (Biddle et al., 2009). Due to these frictions firms may experience over investment and under investment which ultimately reduces the efficiency of capital investment. Theories of information asymmetry suggest that when managers have access to privileged information that investors do not, it can result in a lack of investment, as investors may be hesitant to provide funding without full knowledge of the company's prospects. When managers possess private information that a firm's securities are overvalued, they may exploit this knowledge by issuing equity or risky debt, aware that investors will discount the value of these securities. As a result, managers of firms with lucrative projects may hesitate to issue new securities, leading to underinvestment. This behavior contradicts the assumptions of information asymmetry models, which posit that managers act in the best interests of shareholders. Instead, agency models (Jensen & Meckling, 2019) suggest that self-interested managers may prioritize their own interests over those of shareholders, resulting in investment inefficiencies.

In theory, an increase in free cash flow can lead to the issue of over-investment in companies, a phenomenon supported by numerous empirical studies. Dabla-Norris et al. (2012) developed a public investment efficiency index that assesses the institutional framework governing public investment management across four stages. However, this approach doesn't apply to our accounting-based evaluation method. Therefore, we constructed a measurement framework based on accounting indicators. Investment efficiency and scale are crucial factors influencing the relationship between financial flexibility and firm performance, and we aim to investigate their mediating and moderating effects (Wu et al., 2024). According to Marchica and Mura (2010) investment can be bifurcated into two components: investment scale and investment efficiency, both of which play a crucial role in shaping the relationship flexibility between financial and firm performance. Furthermore, the study of (Wu et al., 2024) proves that financial flexibility plays a crucial role in reducing investment inefficiency by curbing overinvestment, leading to improved accounting and market performance.



Investor Sentiments and Firm Financial Performance

Growing research in the field of behavioral finance provide evidence that investor sentiments affects the stock price movement (Parveen et al., 2020). In case of positive i.e., optimistic behavior of sentiments, investors, stock prices increase more than their fundamental value. In case of negative sentiments or pessimistic behavior of investor, stocks tend to be underpriced. (Brown & Cliff, 2004) documented a strong correlation between investor sentiments and contemporaneous stock return. Moreover, Baker and Wurgler (2007) through investor such overconfidence, biases; as and representativeness, explained the underreaction and over-reaction of investors to past return and documented that waves of sentiments have regular effect on individual firm and stock. In addition to that investor sentiments also affects managerial decisions (Cheng, 2019; Danso, Lartey, Fosu, et al., 2019). For instance, (Zhu et al., 2018) tested and proved that firm's manager do consider investor sentiments while making investment decisions of firm. Therefore managers invest in inefficient investment opportunities when stocks are overvalued and when stocks are undervalued they left potential opportunities. Furthermore, Chen et al. (2019) confirmed the positive effect of investor sentiments on seasoned equity offerings (SEO). The result of study shows that impact of investor sentiment is stronger for small and young firms. Firms experience less severe price drop of Seasonal equity offerings (SEO) during high sentiments or bull market and experience more severe underperformance during post- issue period.

So, the decisions under these circumstances affect the firm performance. Shi and Zhang (2010), study results show a significant effect of investor sentiments on corporate investment and firm performance. They claimed, positive investor sentiments or investor optimism lead the firm to invest more and ultimately firm performance get worsen and on the other hand, pessimistic investor sentiments leads the firm to invest less. So in this case managers select valuable projects which ultimately enhance his performance of firm. Findings of the Arif and Lee (2014) study also confirm high corporate investment during positive sentiments periods leads to lower equity returns. Because higher level of corporate investment proceeds lower expected return. In contrast, (Cheng, 2019) employed data of listed companies from taiwan spanning year 2007-2014 and uncovered that trading volume as a sentiment proxy, positively relates to operating return ratio. Similarly, Zainudin et al. (2019) used three IPOs proxies and created a sentiment index. The three proxies were 1-Volume of IPOs; 2- Market Turnover Rate and 3- Dividend Premium. Afterword they proved that prior to financial crisis, sentiments have positive impact on Malaysian IPO firm performance, which is measured by Tobin's Q. Seok et al. (2019) have suggested that the relationship between investor sentiment and actual returns is more pronounced for firms that are inherently more difficult to value, including smaller, more volatile, and distressed firms, as well as those with higher book-tomarket ratios, unprofitable firms, and those with limited arbitrage activity, has a greater impact on returns of these complex organizations.

Theoretical Framework



Figure 1: Theoretical Framework



Hypotheses Development

The prime purpose of this research is to investigate and validate the relationship of investor sentiments, firm's financial decisions and firm performance under the influence of corporate governance mechanism. According to Keynes (1936), firm's investment decisions and polices are sensitive to changes in investor sentiments or in other words, investor sentiments are drivers of managerial investment Based on this decisions. fundamental, managers of privately held firms decide to issues IPOs when they perceive that their shares are overvalued (Alimov & Mikkelson, 2012). Fixed price model, postulates that positive demand fluctuations generates a sense of future profitability which ultimately increases the investment expenditures. Such condition is prevalent during positive investor sentiment periods (Danso, Lartey, Amankwah-Amoah, et al., 2019). As, Huang et al. (2015) has documented that investor sentiments have strong impact on the performance of market.

Seok et al. (2019) examined the relationship of investor sentiments and realized asset returns. On the basis of firm's characteristics, he has constructed a portfolio of Korean firms and after applying a regression for portfolio found a positive relation among investor sentiments, and smaller size firms, volatile firms and unprofitable firms. In addition to that Xiang (2022) used a sample of public limited firms for Chinese A-Share stock market and studies the effect of investor sentiments on firm performance. Result of study reveals that firm performance is directly linked with R and D spending. Moreover Vuong (2022) measured the effect of investor sentiment on firm performance in the presence of corporate social performance. Study considered the 367 Japanese firms and concluded that the effect of market sentiment is positive on Tobin's Q and negatively affects the return on assets.

Mishra et al. (2021) developed a corporate governance index to empirically measure the relationship between CG and firm performance. They employed system GMM dynamic panel approach to measure different performance measures. They concluded that corporate governance provides directions to shareholders and firms which lead the business houses towards better financial performance. Akbar et al., (2020) analyzed the relationship of corporate governance and firm performance of 230 non-financial listed companies of Pakistan. Results of their study show that CG mechanism varies across different proxies for market-based firm performance and accounting. For instance, in case of small firms, the presence of CEO duality damages the effectiveness of board independence. However, board independence has a lesser negative impact on performance in larger companies. Additionally, we discovered a positive, nonlinear correlation between managerial ownership and performance in smaller firms. Furthermore, updates to the corporate governance code have a negative impact on short-term performance (return on equity), but a positive impact on long-term performance (Tobin Q).

Therefore based on past literature discussion and evidences our study has proposed following hypotheses.

H₁: (Ceteris Paribus) Investor sentiments significantly affect the capital investment decisions

H₂: (Ceteris Paribus) Capital Investment decisions significantly affect the firm Performance

H₃: (Ceteris Paribus) Investor sentiments significantly affect the firm performance

Data Collection and Sample of Study

All non-financial firms listed on the Pakistan stock exchange are the entire population of this study. This study uses data collected from Pakistan over the period from 2010 to 2023. Reason behind the selection of this period is global financial crunch of 2007 and 2008. Because of the missing values we initiated from 2010. The data was obtained from Thomson Reuters Eikon Database and the published financial statements of 217 companies. The data set we are gathering for our study is panel data which is also called longitudinal data. Panel data is a data set in which behaviors of entities are observed across time. Following the (Khan et al., 2020), initially the gathered data has been trimmed or winsorized from top (Bottom) at 5th and 95th percentile to remove the extensive outliers Values. This action reduces the data size but it is essential to



contain the influence of outliers, because these outliers generate biased results.

Econometric Model Specification

Regression is most significant econometric tool for econometrician. Fundamentally; regression is about describing and explaining movement in one variable with respect to one or more other variables (Brooks, 2019). In more concrete terms we say that regression try to explain movement of Variable "y" with respect to variation in other explanatory variables; x_1, x_2 , x_3, \dots, x_n . The general equation for estimation can be written as;

$Y = \alpha + \beta x_1 + \mu_t$

We model empirical relationship between investor sentiments and firm performance. Specifically we will employ the following econometric framework.

Firm Performance $_{i,t} = \alpha_t + \beta_1$ Investor Sentiments $_{i,t} + \beta_2 X_{i,t} + \mu_t + \varepsilon_{i,t}$

Where "i" denote the ith firm and "t" denote the time. In other words, "i" is the cross section and "t" is the time period. Because in cross sectional data we don't have "t" subscript so therefore "i,t" subscript represent panel data.

Investment Efficiency _{i,t} = $\alpha_1 + \beta_1 IS_{i,t} + \beta_2 Size_{i,t}$ + $\beta_3 Age_{i,t} + \beta_4 Lev_{i,t} + \beta_5 Div_{i,t} + \lambda_t + \delta_{it}$

Firm Performance $_{i,t} = \alpha_1 + \beta_1 IS_{i,t} + \beta_2 IE_{i,t} + \beta_3 Size_{i,t} + \beta_4 Age_{i,t} + \beta_5 Lev_{i,t} + \beta_6 Div_{i,t} + \lambda_t + \delta_{it}$ Firm performance is measured by two proxies; Return on Asset (ROA) and Tobin's Q. whereas to measure the investor sentiment we are using stock overnight return (SOR), Price earnings ratio (PE), and Average turnover rate (ATR). For measuring the firm financial decisions we will use investment efficiency (IE).

Panel Data Regression estimation

When the problem of endogeneity restrict the use of static model or fixed effect model then we apply dynamic panel data regression. Therefore due to dynamic nature of relationship, between investor sentiments and firm's financial decisions, firm performance, corporate governance mechanism, we employ dynamic panel data regression to produce unbiased results. Investment Efficiency _{i,t} = $\alpha_1 + \beta_1 IS_{i,t} + \beta_2 Size_{i,t}$ + $\beta_3 Age_{i,t} + \beta_4 Lev_{i,t} + \beta_5 Div_{i,t} + \lambda_t + \delta_{it}$

Firm Performance _{i,t} = α_1 + $\beta_1 IS_{i,t}$ + $\beta_2 IE_{i,t}$ + $\beta_3 Size_{i,t}$ + $\beta_4 Age_{i,t}$ + $\beta_5 Lev_{i,t}$ + $\beta_6 Div_{i,t}$ + λ_t + δ_{it} Whereas;

 $\pmb{\delta}_{it} = \mu_{i} + \upsilon_{it}$

Firm performance is measured by two proxies; Return on Asset (ROA) and Tobin's Q. whereas to measure the investor sentiment we are using stock overnight return (SOR), Price earnings ratio (PE), and Average turnover rate (ATR). For measuring the firm financial decisions we will use investment efficiency (IE).

Empirical Results and Discussion Descriptive Statistics

Table shows the overall descriptive statistics of all major independent variables, dependent variables and control variables. As sentiments are measured through the proxies of Price Earnings Ratio (PER), Average turnover Rate (ATR) and Overnight Returns (SOR), therefore table is showing the mean values and standard deviations of these three proxies. The mean values of PER, ATR, and SOR are 9.3, .00115 and -.0017 with the standard deviation of 26.4, .0035 and.029 respectively. Moreover, firm's decisions efficiency is measured by investment expenditures which have mean value of 14.7 and standard deviation of 3.5. In addition to that ROA and Tobins Q are the measures of firm performance which depicts the mean value .048 and 1.31 along with standard deviation 1.33 .09 and respectively.



Table 1 Des	criptive Statisti	ics			
Variables	No. of Observation	Min	Max	Mean	Std. Dev.
PER	2,821	-85.11183	162.4529	9.373707	26.41345
ATR	2,821	0	0.023779	0.001151	0.003536
SOR	2,821	-0.094834	0.098360	-0.001795	0.029651
IE	2,821	0	19.86681	14.77734	3.59289
ROA	2,821	-0.225867	0.338095	0.048840	0.091146
Tobins Q	2,821	0	8.675392	1.317568	1.331674
FS	2,821	12.72642	21.66886	17.03994	1.973427
DIV	2,821	0	18.58335	9.775485	6.433755
Lev	2,821	0	8.521225	0.863037	1.271542
FA	2,821	7	77	39.09748	16.47663
BS	2,820	7	14	8.088652	1.553337
BI	2,821	0	1	0.684559	0.243869
BD	2,821	0	0.125	0.001759	0.013128

According to (Baltagi, 2009) it is mandatory for the research to check the multicollinearity issue among the explanatory and response variables before employing applying further statistical estimation. By considering this, the present study utilizes Pearson Pairwise Correlation analysis to examine the correlation between independent and dependent variables, as well as assess the extent of correlation among the repressors and absence of multicollinearity issue. The matrix value between the variables must be less than 0.80 (Das, 2019) otherwise both variable will have the same nature. The results in the matrix show that none of the variables have multicolinearity issue. The values of ROA are slightly high showing the positive correlation with Tobins Q, firm size and dividend but are not at that level which could be problematic.

	PER	ATR	SOR	IE	ROA	Tobins Q	FS	DIV	Lev	FA
PER	1									
ATR	0.006	1								
SOR	0.002	-0.030	1							
IE	0.01	0.036	-0.031	1						
ROA	0.111	-0.064	-0.043	0.225	1					
TobinsQ	0.165	-0.028	-0.024	0.100	0.401	1				
FS	0.093	0.060	-0.033	0.525	0.487	0.461	1			
DIV	0.040	-0.056	-0.023	0.355	0.520	0.277	0.589	1		
Lev	-0.056	0.032	-0.007	0.050	0.274	-0.041	-0.102	164	1	
FA	0.055	-0.035	-0.058	0.040	0.043	0.107	0.124	0.101	-0.054	1

Regression analysis facilitate us to decide the nature and significance of the relationship between dependent and independent variables, including whether it is positive, negative, or statistically significant. In addition to that, researcher employed Hausman test to determine whether the fixed effect model is more appropriate or random effects model.



Results in table-4 show that for IE, Tobins Q, and ROA the most appropriate method is fixed effect model as the results are significant.

	Fixed Effect						Random	Effect					
Variables	Model 3		Model 2	Model 2		Model 1		Model 3			Model 1		
	ROA	t Values	<u>Tobins</u> Q	t Values	IE	t Values	ROA	Z Values	<u>Tobins</u> Q	Z Values	IE	Z Values	
PER	0.00557*	2.21	0.0386*	3.78	·0 . 0158*	4.78	0.0001*	2.33	0.0015*	2.33	0.0037**	1.65	
	(0.026)		(0.007)		(0.004)		(0.02)		(0.02)		(0.0514)		
ATR	0.4633*	2.20	1.2198**	2.24	-4.338**	1 27	-1.273*	3.50	-3.2901**	1.62	109.892*	2 52	
	(-0.019)	3.29	(0.075)	-2,31	(0.0786)	1.27	(0.01)	2,58	(0.0531)	-1.05	(0.012)	2.52	
SOR	0.0747534**	1.89	.0.4 7147	-1.1	·0 . 8865	0.5	0.1399*	2.52	-0.56200	.0.97	-2.9731	0.58	
	(-0.059)		(0.271)		(0.615)		(0.012)		(0.334)		(0.559)		
FS	0.01253*	7.26	0.48481*	26.20	0.57147*	7.55	0.0143*		0.47601*	21.51	0.76225*	7.26	
	(0.000)	1.30	(0.000)	20,38	(0.000)	((0.000)	8.9	(0.000)	21.51	(0.000)		
DIV	0.00257*	7.04	0.00411	1.16	0.07401*	5.00	0.0038*	0.22	0.00336*	0.72	0.07006*	2.24	
	(0.000)	7.84	(0.246)	1,10	(0.000)	5,08	(0.000)	9.52	(0.0472)	0.72	(0.025)	2+24	
Lev	-0.009156*	7.9	0.01509	1.21	0.15507*	3.01	0.0096*	6,31	0.0118*	0.7	0.18146	1.45	
	(0.002)		(0.228)		(0.003)		(0.000)		(0.482)		(0.148)		
FA	-0.001909*	6.24	0.01164*	-3.53	0.08995*	6.62	0.0004*	2.62	-0.00452	-1.38	-0.0147	1.41	

	(0.000)		(0.000)		(0.000)		(0.009)		(0.166)		(0.159)		
_cons	0.107368*	3.62	6.54444*	-20.45	0.65371	0.65371 0.5		7.84	·6 · 6336*	-17.42	1.6291	0.98	
	(0.000)	9	(0.000)		(0.62)		(0.000)		(0.000)		(0.325)		
F-Stat	39.71		114.56		24.64						-		
Wald Chi ²							390.89		121.19		425.31		
Obsy.	2821		2821		2821		2821		2821		2821		

Results are significant at 1%, 5% and 10% level and denoted by *, ** and ***, respectively Result Discussion

Results in Table 3 present the effect of investor sentiment on firm's performance. Model 1 measure the impact of sentiments on firms' financial decisions. Results in Column 6 of Model 1 are significant but negative. This means that investor sentiments have negative impact on firms' financial decisions. On the other hand sentiments have positive impact on firms' performance as table showing significant positive relation in model 2 and 3. Contrary to PER and ATR, SOR is showing insignificant results. The results are consistent with the (Xiong et al., 2020) in which he documented that stock overnight return is not a good predictor of investor sentiment in developing economies. It could be used as a good proxy in developed economies because the investors in those markets are somehow rational.

Table 4. Hausman Fix Random

	(b)	(B)	(b-B)	sqrt(diag(V_b V_B))
	Fix	random	Difference	Std. err.
PER	0.001587	0.000728	0.000858	0.0019844
ATR	-4.338904	-1.356034	-2.982871	15.46931
SOR	-0.886559	-0.409076	-0.477483	1.707074
FS	0.571476	0.440459	0.1310174	0.0737547
DIV	0.074013	0.003783	0.070229	0.0141491



	11	E	R	N	AT	0	N	A	L	JC)(R	NA	AL	0	F					
5	0	C	I	A	L	S	C	I	E	N	C	Ε	S	В	U	L	L	Ε	Т	I	N
								IS	SSI	N	E)	30	07-	-19	17	(P)	30	00	7-1	9	09

Lev	0.155071	0.016257	0.138813	0.049954
FA	0.089951	-0.005316	0.095268	0.013356
$Chi^2 = 91.36$	$Prob > chi^2$	= 0.000		

Results Discussion and Conclusion

As the results of Hausman test shown in the Table 4 are significant which direct us to accept the hypothesis that fixed effect model is more appropriate for our data set. The negative coefficient of investment efficiency shows that investor sentiments have negative relations with the firm's financial decisions. Which means that the market imperfections reduces firm's investment tendency. Because managers have inside information therefore pessimistic investor show reluctance to finance their capitals which results into condensed investment pattern. In other words we can say that when managers possess private information that a firm's securities are overvalued, they may exploit this knowledge by issuing equity or risky debt, aware that investors will discount the value of these securities. As a result, managers of firms with lucrative projects may hesitate to issue new securities, leading to underinvestment. This behavior contradicts the assumptions of information asymmetry models, which posit that managers act in the best interests of shareholders.

Practical Implications and Limitations

The more informed decision making could enhance the market efficiency. As Pakistani market is weak form efficient market therefore understanding about the direction of impact of sentiments on firms' financial decisions and ultimately performance can improve the market efficiency. Investor can take proactive approach for rationale investment decisions by studying the investor behavior with respect to market. However this research bears some limitations concerning the data collection. Like; future research can incorporate macroeconomic factor to measure the sentiment's impact on macroeconomic level as well. Also research can incorporate financial sector data as well to measure the impact investors' emotions on the performance.

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