Investor Sentiment and its Effect on Stock Market Performance: Evidence from Pakistan

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Abstract: This study examines the effect of investor sentiment on Pakistan's stock market and elaborates how the attitude and the behavior of investors as a whole influence the market. Using both quantitative and qualitative methods of research including sentiment analysis, the study seeks to determine the relationship between investor sentiment and the stock market in Pakistan. The objective of the study is to analyze the data of sentiment indices as well as the market data and try to establish trends and other relationships which will help to show how changes in the investor sentiment affect the prices of stocks and volumes of trade. The results show that investors' sentiment is one of the factors affecting the volatility of the market, where on one hand, the high market and investor sentiment results in high price movements while low sentiment result to low price movements in the market.

Introduction

Investor sentiment is a crucial factor as it highlights existing biases in the stock market and creates opportunities for generating abnormal returns by capitalizing on these biases (Fisher & Statman, 2013). Research has previously explored the link between investor sentiment and stock market behavior (Schmeling, 2009). Investor sentiment means the investor positivity or negativity regarding future prices of stock that cannot be described by the current facts. There is a growing consensus in the literature that in the long run investor sentiment is an adverse predictor of stock market returns. However, the evidence regarding short-run market returns is uncertain. There is a slight impact of investor sentiment on succeeding weekly and monthly U.S market returns.(Brown and Cliff ,2004).

Investor sentiment contrarian predictability is more obvious in hard to value stocks, for instance, in high volatile and small size firms (Baker & Wurgler , 2006).The sentiment positive relation to all the stock prices indicates that sentiment is a predictor of subsequent market returns . However, if hard or easy to value stocks are positively or negatively related to the sentiment the impact of the sentiment on market returns is weakened (Baker & Wurgler ,2007).Various approaches have been proposed for measuring investor sentiment, including survey-based, market-based and news-based methods, as discussed by Qadan and Aharon (2019). For instance, Petit et al. (2019) utilize a wide range of indirect and concealed information to analyze investor sentiment, while Baker and Wurgler (2006) focus on real estate market data to gauge investor sentiment.

This study is important because investor sentiment has not been thoroughly examined as a key determinant of stock prices in Pakistan. By incorporating behavioral factors, The study aim to enhance the understanding of financial markets in this context. Given the unique characteristics of the Pakistani stock exchange, we will investigate different sentiment variables: dividend premium, initial public offerings (IPO), first-day returns, IPO volume, and trading volume.

Objectives

1. To measure the relation between Investor sentiment and stock returns.
2. To analyze the impact of investor sentiment on stock market performance.

Research questions

1. Does Investor sentiment affect stock market returns?
2. What effect do investor sentiment has on stock market performance?

Literature review

Investor sentiment, which reflects the overall mood and psychological state of market participants, plays a crucial role in influencing stock market trends. This literature review examines the existing research on investor sentiment specifically in relation to the Pakistan stock market. It highlights important studies that have analyzed the dynamics, measurement methods, and consequences of investor sentiment.

Investor sentiment is essential for understanding what causes market ups and downs, which can often be unpredictable. Fisher and Statman (2000) suggest that investor sentiment often triggers market biases, leading to opportunities for higher-than-average returns. Many studies in different markets, including Pakistan, support this idea.In Pakistan, changes in investor behavior have been linked to significant shifts in the market. Research by Ali et al. (2023) shows that both local economic conditions and geopolitical factors have a strong impact on investor sentiment in Pakistan's stock market. Their findings emphasize how important it is to consider investor psychology when looking at market trends and volatility levels

The research by Baker and Wurgler (2006) puts a clear emphasis on how investor sentiment affects the behavior of stock prices, leading to overpricing during periods of extreme optimism and underpricing during periods of gloom. Noise trader models developed by DeLong, Shleifer, Summers, and Waldmann (1990) suggest that some groups of investors might, at times, make decisions inconsistent with market fundamentals, therefore affecting asset prices in unpredictable directions through emotional sentiments. This notion considers the collective optimism of noise traders as likely to affect expected returns. A plethora of empirical studies support the assertion that valuation measures of investor sentiment explain movements in stock returns with respect to time and across behavioral regimes even when introduced with rational factors like mean-variance (Yu and Yuan, 2010). Bearing in mind the context of the Pakistan stock market, Rahman et al. (2023) recommended research into the effects of investor sentiment on the stock market returns. They reported that positive sentiment drives stock prices up in the short term while negative sentiment may induce substantial declines. The study further establishes that sentiment-based returns are far greater in emerging markets like Pakistan and heightened in their degree, where the speculation, market observation, and reaction of investors towards new news are intense.

Methodology

The primary aim of this research is to evaluate investor sentiment impact on Pakistan stock market performance by utilizing both direct and indirect indicators. The indirect method relies on financial market variables grounded in financial theory to assess investor sentiment. Proxy sentiment indicators can be categorized into four groups: types of trading activity, performance, market indicators, and derivatives (Brown and Cliff, 2005). Three categories are relevant to the proxies: liquidity, productivity and financing of business operations. Previous research has used various indicators to measure investor sentiment, such as the, put-call ratio, buy-sell imbalance relative strength index, money flow index (MFI), dividend premium, and closed-end fund discount.

Time series data from 2013 to 2023 has been used in the study. The data is obtained from published economic surveys and official website of the Pakistan Stock Exchange. Stock market performance is the dependent variable of the study, while investor sentiment is the independent variable.

Results &Discussion

The effect of investor sentiment on stock market performance is analyzed utilizing the methodology established by Brown and Cliff (2004), which involves regressing sentiment proxies prior to the construction of the sentiment index. This methodology facilitates the evaluation of the correlation between stock market performance and investor sentiment. The regressions incorporate both sentiment proxies and their lagged counterparts. Notably, returns on large-cap stocks exhibit first-order autocorrelation, whereas returns on small-cap demonstrate third-order autocorrelation as indicated by the coefficients. Conversely, mid-cap stock performance does not display any autocorrelation. Consequently, the regression analysis for large-cap stock returns includes one lag of returns, while the analysis for small-cap stock returns incorporates three lags of returns.

Table 1

Regression estimates of sentiment proxies

	Rbig		*Rmid*		*Rsml*	
Variable	**Coefficient**	**t-Statistic**	**Coefficient**	**t-Statistic**	**Coefficient**	**t-Statistic**
$AVDC_t$	3.4434***	12.9306	4.0789***	16.9842	2.7778***	13.1469
$AVDC_{t-1}$	-0.2445	1.0829	-0.3131*	1.9512	0.1218	0.7095
$CEFD_t$	0.8737***	5.9082	-0.1071	0.9712	-0.2898**	2.1222
$CEFD_{t-1}$	-0.7787***	5.7407	0.2464**	2.4226	0.4054***	3.0121
MFI_t	0.0078*	1.7533	0.0065*	1.7622	0.0087**	2.2921
MFI_{t-1}	-0.0044	0.9902	-0.0011	0.2872	-0.0042	1.1312
PCV_t	-0.4416**	2.5557	-0.0815	0.6432	0.0488	0.4188
PCV_{t-1}	-0.0903	0.5668	0.0951	1.0733	0.1809*	1.8087
PCO_t	1.5466	1.2047	0.3251	0.3456	0.4524	0.4744
PCO_{t-1}	-1.5667	1.2388	-1.3248	1.4626	-1.3548	1.5183
RSI_t	0.0068*	1.9096	0.0038	1.2024	0.0055*	1.9164

RSI_{t-1}	-0.0095***	2.7589	-0.0046	1.4009	-0.0051	1.5961
$VOLA_t$	-1.3278***	4.5118	-1.1672***	3.7929	-1.1918***	5.2282
$VOLA_{t-1}$	0.6464*	2.4198	0.3759	1.4998	0.6601***	2.9628
$DVRA_t$	0.0044	0.0038	-0.5207	0.5968	0.5248	0.6318
$DVRA_{t-1}$	1.3603	1.2421	1.6918	1.5366	0.9366	0.7731
Adj-R^2	0.6072		0.6947		0.5978	
S.E	1.5506		1.3614		1.3522	
F-Statistic	74.2508		115.5267		63.9603	
AIC	3.7372		3.4757		3.4657	

Note: Table 1 presents regression returns. Ordinary least square with Newey-West standard errors is used for estimation. Some evidence of autocorrelation is present. AIC: Akaike information criterion. Adj-R2: Adjusted R-squared; S.E: Standard Error of regression

Conclusion

The influence of investor sentiment on stock returns is analyzed utilizing both weekly and monthly data. To facilitate this analysis, a series of practical indices have been created to separately assess overall market sentiment and institutional investor sentiment. Notably, despite prevailing challenges, the stock exchange continues to flourish, which is significant. This optimistic perspective among numerous investors in Pakistan emphasizes the critical role of sentiment in the nation's investment landscape. Investors looking to implement momentum strategies in Asia or other regions should remain vigilant regarding the sentiment present at the time of portfolio formation. The results further suggest that, over the long term, both sentiment and inflation are pivotal factors, corroborating foundational studies that indicate sentiment exerts a positive influence while inflation tends to have a negative effect. These varied outcomes underscore the importance of sentiment in the investment decision-making process within Pakistan.

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