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MASTER OF BUSINESS ADMINISTRATION

A RESEARCH ON
IMPACT OF MARKET SENTIMENT ON STOCK PRICES

Measuring Impact of Market Sentiment on Stock Prices

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Abstract:- This study considers the impact of investor sentiment on stock market prices, it is when something beyond traditional economic factors, such as emotions or perceptions that play dominating role in driving psychological and real pricing. This behaviour in investor sentiment often leads to irrational decision making, always influenced by news, social media and the movements of markets. This will make stocks price more volatile. Through sentiment analysis, historical stock data and behavioural finance models the study examines times when there were significant movements in the market. These trends suggest that happy days can cause major prices to rise (along with the sun) and bad news can punch holes in a report even if business hasn't really looked any worse. The regulators and the investors should understand that sentiment can improve the efficiency of the stock price-prediction algorithms as well as bring anomalies to light in the market. The study of market sentiment and its effect on the stock price. In the given paper of research, it is easy to notice the impact of interaction between investor sentiment and stock price.

Keywords:- Stock Price, Market Sentiment, Investor Sentiment.

I. INTRODUCTION

Market sentiment is thus a factor that helps give stock prices a direction even beyond the traditional sets of financial performance and economic indicators. It can simply be said as the attitude or perception held by investors at any given time towards financial markets or a particular stock. This notion of sentiment can influence thinking by numerous factors ranging from news events to a release of data, geopolitical occurrences, social media among others. While fundamentally the stocks are anchored into a company's earnings, assets, and prospects, market sentiment may also cause price movements that hinge on emotions such as fear, optimism, or uncertainty. As is often clear during volatility periods when collective fear, panic, or exuberance swings appear to overpower rational action, market sentiment behaves more intensely upon prices for stocks. Positive sentiment tends to make the stock more expensive because an investor tries to keep up with this growth; on the other hand, if there's negative sentiment, it may tend to sell off even when the fundamentals are the same.

A further analysis will be presented on how multiple indicators of sentiment such as investor confidence and media tone may be applied for predicting market trends and guiding investment strategies. The relation with intrinsic value is lost in the process so that price volatility is the result. In one case of highly optimistic feelings, stock prices will rise, sometimes even producing bubbles.

Negative sentiment may help in causing even sharper declines even when company fundamentals haven't changed. This research aims to explore how shifts in investor sentiment affect the prices of the stock. This involves observing the mechanisms behind the movement in the market and the overall implications when it comes to an individual's stability and bigger-picture stability. Price volatility can result from stock prices deviating from their fundamental values because of changed moods among investors, influenced by news, social media, and market trends. Where corporate fundamentals remain unchanged, positivity can cause serious losses, while pessimism pushes the stock price up and periodically blows up the bubble. This research paper is an attempt to understand the mechanics that lie behind such sentiment-driven market movements and how changes in the investor mood influence stock prices. More than that, the study is designed to be informative of concrete avenues for investors and policymakers when it comes to recognizing and responding to sentiment-induced volatility in a way that would improve decision-making and maintain market stability. Even with no noticeable change in the economic climate or the performance of a firm, many studies have shown the significant contribution of investor emotion to short-term price movements. This is perhaps most vividly captured in the dot-com bubble and the financial crisis of 2008-two of the most contentious examples of market anomalies wherein the level of pricing was more dependent on sentiment than it was intrinsic. The role of mood in investment decisions is extremely pivotal, therefore acting as a challenge to those authorities tasked with managing markets toward financial stability. These factors have created heightened volatility and responsiveness of market mood, such that the speed of news dissemination is very prompt. It is this reason that short-term market fluctuations, often than not, reflect the emotions of a group rather than a dispassionate view of a company's core competencies or macroeconomic data.

It searches for the ways through which sentiments in the market influence stock prices as it explores the behavioural biases controlling the investor decisions. It further digs into past market data to prove that changes in sentiments have been correlated with price correlations in the market. It tries to provide detail on the control and reduction of volatility based on emotions.

A. Objectives of the Research:

- Examine the connection between stock price volatility and investor sentiment
- Determine the behavioural biases that cause sentiment driven changes in the Market
- Create plans to reduce the influence of emotions on investment Choices

B. Scope of the Research:

This study examines how market sentiment affects stock prices and provides an in-depth study of the behavioural and psychological aspects that affect investors' choices. It is trying to show how psychology influences the short-term fluctuations of stock prices in markets rather

than mere logical forecasts of financial fundamentals. The work discusses both negative and positive sentiment building up under optimistic and pessimistic market conditions.

II. LITERATURE REVIEW

Key studies have established that investor sentiment which is constructed by emotions, media news, and trends in the market can cause noticeable divergences in the stocks from their underlying values. Researchers such as Shiller (2000), and also Baker & Wurgler (2007), argue that rather than shifts in the underlying fundamentals of the economy, it is sentiment that primarily drives most market bubbles and busts.

According to their study, overvaluation of stocks becomes typical when the optimism level is very high, whereas excess sell-offs may result from pessimism and fear. Correct as well as speculative information flows may cause rapid shifts in investor mood and stock prices-for example, such papers as those by Tetlock (2007), employing sentiment analysis from news and social media to predict reactions of the stock market.

In totality, the literature points out how urgently it is becoming to grasp this aspect of investor sentiment in the prediction of stock price movements and the great demand for the mechanisms that can dampen the impact of sentiment on financial markets. Consolidating all these findings, this research explores the mechanism through which sentiment affects the equity prices as well as strategies of investors and regulatory bodies to control the volatility in the face of sentiment.

Later, Baker and Wurgler (2006) developed the Investor Sentiment Index which found empirical evidence of significant effects of sentiment on stock prices especially in small business and volatility-driven markets. The result thus vindicates the hypothesis that sentiment can indeed create anomalies as it shows that, when sentiments are high, particular stocks are overpriced, and when sentiments are low they are undervalued.

Moreover, Wurgler, Baker, among others have emphasized how public talk and media affect investor sentiment. Tetlock's 2007 study, through the inspection of news stories influencing market behavior showed that the negative news sentiment will bring falls in stock price. Thus, information transmission is a factor which is as well a very important aspect influencing market emotion. The same way in which the dawn of social media has come to open up opportunities in research. Sites like Reddit and Twitter have acted as triggers for flash changes in public opinion that influence trading decisions, and have been proven by the 2021 stock surges of Gamestop and AMC. Various approaches such as surveys, market data, sophisticated text analysis, and machine learning algorithms have been used to quantify sentiment in empirical research. Barberis, Shleifer, and Vishny (1998) as well as Hirshleifer and Shumway (2003) findings are

examples of the effect of emotions in mispricing and market inefficiency, which is likely to influence the trade tactic.

In conclusion, there is empirical evidence showing a complex linkage between stock market prices and investor emotions and hence underlines the important influence that psychological and emotional factors could have on the behavior of markets. It is necessary for policymakers as well as investors to come to grips with these dynamics since information moves rapidly and financial markets increasingly become integrated. Therefore, based on that rationale, our study delves into what drives sentiment-driven volatility and how that interacts with regulation and effective investment strategies.

III. METHODOLOGY RESEARCH

It is on this mixed-method approach that the current study will consider how market sentiment can influence the stock price using a quantitative analytical method supplemented with qualitative analysis to present a more holistic view on how investor sentiment affects market behavior.

➤ Sentiment Data

Investors' sentiment shall be captured by the help of tools in sentiment analysis that analyze news articles, social media posts such as Twitter and Reddit, even financial reports. This will give derived scores based on the NLP techniques that capture both positive and negative sentiments as well as neutrality.

➤ Sample Group

We will concentrate on an illustrative sample of stocks, drawn across distinct sectors with the emphasis on small- to mid-cap companies with a view to estimating the influence of sentiment on stocks that happen to be comparatively sensitive to emotional influences. Alternatively, large-cap stocks may also be drawn as control measures for purposes of comparison with other stocks.

➤ Event Study Methodology

An event study will be conducted to analyze reactions in the stock price around particular news events or shifts in sentiment and therefore allow measures of abnormal returns in response to shifts in investor sentiment.

Table 1: Summary of Data Collection

Data Type	Source	Time Period	Number of Data	Description
Stock Prices	Bloomberg, Yahoo Finance	2022-23	1,000+	Historical daily prices of 50 stocks.
Sentiment Scores	Twitter, Reddit, News Sources	2022-23	1,000+	Sentiment scores based on the result of NLP performed on social media, news articles, and online forums.
Trading Volume	Bloomberg, Yahoo Finance	2022-23	1,000+	Volume for selected stocks
Volatility Index (VIX)	CBOE	2022-23	1,000+	VIX index values in order to measure the market uncertainty
Macroeconomic Data	World Bank, IMF	2022-23	100+	GDP and inflation levels

Table 2: Regression Model Output:

	Sentiment Index (β_1)	Trading Volume (β_2)	Volatility
Coefficient	0.75	0.10	0.30
Error	0.12	0.05	0.08
p-value	0.001	0.02	0.001
Significance	($p < 0.05$)	($p < 0.05$)	($p < 0.05$)

➤ Interpretation

Even though negative VIX values indicate the fact that increased market volatility influences the stock price fall, the positive coefficient ($\beta_1 = 0.75$) indicates that a higher score in sentiment indices reveals a higher fluctuation in the stock prices.

➤ Event Study Findings:

Change in Event Stock Price (%)	Sentiment Score:
+5.2%~0.8 (Positive)	Days Before/Days After Event
Earnings Announcement (AAPL)-3% + 8%	
Interest Rate Increase -3.5% - 0.6 (Down)-2% to -6%	
Launch of a New Product (TSLA)0.9 (Positive) +7.0%+2%	
<	10%

➤ Interpretation:

The aberrant stock price returns around significant events are displayed in the table. Product launches and interest rate hikes are examples of positive sentiment events that cause prices to rise, while these occurrences which are negative sentiment events cause price reductions.

IV. FINDINGS

Investor mood, the research establishes, plays a huge role in the short-term stock price moves that ultimately give rise to the deviations from fundamental values. Negative sentiment would generally be expected to often herald rapid falls even without any changes in the fundamentals of company performance, whereas positive sentiment buoyed by optimism, news, and market trends tends to be inflationary for stock values and occasionally result in bubbles. This has been associated with overconfidence and herd mentality biases. The discussion shows that the sentiment-free companies are generally larger and stable companies with smaller equities, which are more prone to greater volatility. Secondly, these techniques of sentiment analysis tracing the sentiment from news and social media have proven instrumental in forecasting short-term changes in the market. These findings underscore the need for regulators to be cognizant of emotion when applying policies and for investors to be cognizant of sentiment when formulating their strategies.

V. CONCLUSION

In conclusion, it follows that stock prices are considerably influenced by the sentiment of the investors; this often manifests in high market volatility. This study illustrates how psychological drivers such as optimism, fear, and herding behavior drive prices away from their fundamental values, while typical financial theories focus on fundamental issues. Fluctuations are more apparent in smaller, highly volatile stocks because in those cases, actions founded on less logic have a larger impact. Hence, it focuses on highlighting the importance that needs to be generated by incorporating sentiment analysis within investment strategies in order to minimize risks and avoid

hasty decisions under the pressures of the volatile marketplace. Furthermore, the findings also suggest that for maintaining markets in a stabilized state and forming defenses against distortion caused by emotions, the governing bodies had to carefully monitor all developments of sentiments. Therefore, the study questions the integration of traditional financial analysis with behavioural insights as it is crucial for better navigation of contemporary complex financial markets.

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