

Effect of News Signals on Daily Stock Market

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The stock market is often seen as a barometer of a country's economic health, with stock prices fluctuating based on a range of economic, financial, political, and global factors. In order to understand how these factors impact stock market volatility, it is necessary to consider the influence of daily news signals and events. This is particularly important in the context of developing countries, where stock markets are often more volatile and susceptible to sudden changes.

stock market

stock prices

stock market returns

news events

stock exchange

1. Introduction

The impact of news events on stock market performance has been extensively explored in the literature, revealing the influence of various factors on stock prices and returns. Studies have shown that news events can lead to delayed and amplified effects on stock price movements, with considerations of investor sentiment, market liquidity, and trading volume ([Christie-David et al. 2002](#); [Libby et al. 2002](#); [Tetlock 2007](#)). Research has also focused on the relationship between news events and equity market volatility. [Campbell and Hentschel \(1992\)](#) and [Engle and Ng \(1993\)](#) have examined the effects of news events on volatility, with the latter suggesting that the absence of news can be positive for markets. [Veronesi \(1999\)](#) highlights stock market overreactions to negative news during favorable economic conditions. [Nizer and Nievola \(2012\)](#) investigate the influence of published news on the Brazilian stock market.

In addition, the impact of news events on stock market returns has been studied across different contexts. [Zhou et al. \(2023\)](#) analyze media coverage and stock market returns, explicitly focusing on the China–Pakistan Economic Corridor. [Berry and Howe \(1994\)](#) find that news events have a stronger impact during trading hours than non-trading hours. [Shiller \(1980\)](#) suggests a long-term influence of news events on stock prices, indicating that markets may not always fully adjust to new information. The nature of events, such as political events, elections, or government policy changes, can significantly affect stock market returns. Turning to the Pakistan Stock Exchange (PSX), ([Raza and Kemal 2017](#)) demonstrate the impact of political news on market returns, highlighting the greater influence of negative political news. [Rashid et al. \(2022\)](#) focus on macroeconomic news and its significant effect on market returns, with positive macroeconomic news positively impacting returns and negative macroeconomic news having a negative impact. [Ghafoor et al. \(2020\)](#) find that increased political competitiveness and democratic circumstances boost market returns in KSE.

Moreover, studies have examined the differential effects of positive and negative news events. [De Oliveira Carosia et al. \(2021\)](#) find that positive news events have a more substantial impact on stock returns than negative news events in the Brazilian stock market. [Sajid Nazir et al. \(2014\)](#) report a significant positive impact of positive news events on stock returns, while the impact of negative news events is statistically insignificant. Recent research has highlighted the role of investor sentiment in the relationship between news events and stock market returns. [M. Baker and Wurgler \(2006\)](#) find that positive news events have a stronger impact when investors are optimistic, while negative news events are more influential during pessimistic periods. [Tang et al. \(2013\)](#) demonstrate the greater impact of negative news events on the stock market, particularly during bear markets.

The stock market is a crucial aspect of the financial system and its dynamics have been the subject of extensive research. According to [Fama \(1981\)](#), the type of money supply determines the stock market. Changes in exchange rates can have an immediate and noticeable effect on the market, and monetary inflation can lower short-term interest rates. It is important to understand the stock market's fundamental factors to fully comprehend its dynamics. Studies have established the significance of macroeconomic and structural factors that can impact financial markets. However, empirical research in this area is still limited and requires a more precise analysis of the analytical models. In developing countries, the stock exchange is vital to economic growth. [Kemboi and Tarus \(2012\)](#) investigated the macroeconomic factors that impact a nation's stock market performance. [Cherif and Gazdar \(2010\)](#) conducted a recent analysis of the impact of macroeconomic variables on stock market growth. Despite its potential benefits, trading in the stock market can be risky and unpredictable. This is due to various signals, such as political and economic events, financial and global news, and institution-related news, that can cause fluctuations in stock prices.

To predict stock prices, research analysts frequently use two main approaches: the "chartist" or "scientific" approach and the concept of fundamental or intrinsic value analysis. As described by [\(Fama 1965\)](#), the chartist approach is based on the principle that experience continues to repeat itself, and historical price trends can be used to estimate stock prices. The sentiment indicators, derived from news wire articles, have become a popular source of information for established traders in the financial markets. Different studies ([Dougal et al. 2011](#); [Mitchell and Mulherin 1944](#); [Press and Fang 2009](#)) have investigated the effects of traditional media sources on stock prices, as well as the impact of economic, political, and social factors on the performance of stock markets in Pakistan.

Good news, such as positive economic indicators, profitable news, corporate growth, and political stability, can result in buying pressure and an increase in stock prices. On the other hand, negative news such as economic uncertainty, political turmoil, credit crisis, and selling pressure can lead to a decrease in stock prices as people tend to sell their shares in response to such news. The Pakistani stock market is subject to a range of economic, political, and social factors that can impact its performance. Good news such as strong GDP growth, low inflation, and stable interest rates can boost investor confidence and drive-up stock prices. Conversely, negative news such as economic uncertainty, political turmoil, financial scandals, and widespread credit crises can cause the market to decline.

In addition to domestic factors, the stock market is also influenced by global events such as geopolitical tensions, natural disasters, and changes in the world economy. For instance, the COVID-19 pandemic profoundly affected stock markets globally, including in Pakistan, where it led to a significant drop in value ([Ali et al. 2023](#); [Ashraf 2020](#)). Despite these ups and downs, the Pakistani stock market has seen growth in recent years, reaching an all-time high of 42,000 points in 2019. However, the pandemic caused the market to hit its lowest point in 2020 before rebounding to new heights in 2021. While news and events can greatly impact the direction of the stock market, it is crucial to also take into consideration long-term economic and political trends. The stock market is a complex and dynamic system, and its performance is determined by a combination of multiple factors.

2. The Impact of News Events on Stock Market Returns

The stock market is often viewed as unpredictable due to its volatile nature. Researchers have studied the stock market's daily fluctuations and concluded that it is a random walk ([Dupernex 2007](#)). However, recent studies have shown that news data can be a valuable source of information for predicting the stock market. [Tonghui et al. \(2020\)](#) found a strong correlation between the Sina Weibo Index and stock market volatility using Granger causality and time-delay detrended cross-correlation analysis (DCCA). Internet news and queries also have the predictive potential for stock market indexes ([Zhao 2019](#)). On the other hand, private information has been found to correlate with turnover and volatility negatively. The impact of news announcements on the stock market has been widely studied, with researchers finding that news significantly affects stock price return and uncertainty ([Hussain and Omrane 2020](#)). Another factor that affects the stock market is political and economic stability. The Pakistani stock market experienced crashes in 2005, 2006, and 2008–2009 due to political unrest and financial speculation. However, it has also been found that the market can recover with improved political stability ([Nazir et al. 2010](#)). Similarly, uncertainty in the foreign exchange market can impact the Islamic finance market ([Erdogan et al. 2020](#)). Research has also shown the impact of macroeconomic factors on the stock market. For example, [Humpe and Macmillan \(2009\)](#) found a positive relationship between industrial production and stock prices. [Saeedian et al. \(2019\)](#) showed the level of mutual involvement among 40 global stock exchange indices and economies with the largest GDP. The impact of shocks on the stock market has also been studied. [Hussain et al. \(2015\)](#) found that adverse shocks significantly impact the stock market more than positive shocks. [Tule et al. \(2018\)](#) found a solid one-way effect of shocks on both the stock and foreign exchange markets. Additionally, declining prices in Asia can impact risk in the U.S. market ([Shen 2018](#)).

The stock market is affected by various factors, including news data, political stability, macroeconomic factors, and shocks. Researchers have found that these factors can significantly affect stock price return and uncertainty. The news model proposes that new information, either positive or negative, can affect stock market returns by changing investors' expectations ([Nofsinger and Sias 1999](#)). In other words, news events can revise market participants' beliefs about future cash flows and risk, influencing their trading decisions and ultimately impacting market prices ([Barberis et al. 1998](#)). According to the efficient market hypothesis (EMH), stock prices fully reflect all publicly available information, including news, and therefore it is impossible to consistently earn abnormal returns by trading based on news events ([Fama 1970](#)). However, empirical evidence has challenged this assumption showing

that news events impact stock prices, especially in the short term ([Grossman and Stiglitz 1980](#); [Jegadeesh and Titman 1993](#)). One explanation for this phenomenon is that investors may suffer from cognitive biases, such as overconfidence, herding, or anchoring, which prevent them from completely processing and rationally incorporating all the available information ([R. J. Shiller 2003](#)). The news model suggests that the effect of news events on stock market returns is not uniform across time and stocks. For instance, some news events may have a stronger impact on the returns of certain sectors or industries, while others may be more relevant for specific companies or countries ([Frazzini and Lamont 2007](#)). The timing and frequency of news releases can also affect their market impact, as investors may have different expectations about when and how often news should arrive ([Tetlock 2011](#)). The news model is based on the idea that news events and announcements impact stock market returns. This model suggests that the market reacts to new information about companies and other economic factors, causing prices to adjust accordingly ([Kavussanos and Visvikis 2006](#)). News events can be categorized as either positive or negative and can include a range of factors such as economic indicators, corporate earnings announcements, and political developments ([Wei and Nguyen 2020](#)).

The impact of news events on stock market returns has been studied extensively in the finance literature. The efficient market hypothesis (EMH) suggests that stock prices reflect all available information, including news events, and therefore, it is impossible to consistently earn excess returns by trading on the news alone ([Fama 1970](#)). However, this theory has been challenged by the growing body of evidence suggesting that news events significantly impact stock market returns ([Nizer and Nievola 2012](#)). One theoretical framework proposed to explain the relationship between news events and stock market returns is the attention-based model (ABM) ([Barber and Odean 2008](#)). According to this model, investors are more likely to pay attention to and act on news events that are salient and easily understandable. Therefore, more salient news events will likely impact stock prices more ([Bollen et al. 2011](#)). Another theoretical framework that has been proposed is the sentiment-based model (SBM) ([M. Baker and Wurgler 2006](#)). This model suggests that news events can influence market sentiment, affecting stock prices. Positive news events are likely to increase market optimism and result in higher stock prices, while negative news events are likely to decrease market optimism and lower stock prices ([Y. Liu and Yang 2017](#)). [Cevik et al. \(2020\)](#) investigated the impact of crude oil prices on stock market returns in Turkey, taking into account uncertainty spillovers. The results showed that Brent crude oil prices significantly impact stock market returns in Turkey, as seen in 1993 and 2008–2009. During the financial crisis, there was a significant reversible inferred volatility spillover between oil and stock markets, increasing the association between the two. [Liu et al. \(2020\)](#) studied the competitive association and uncertainty transfer between the oil market and the U.S. stock market using volatility spillover indices, finding a solid time-varying positive association between oil and stock-implied volatility returns. Studies have shown that individual stock prices tend to decrease during extreme market conditions. The negative relationship between economic policy uncertainty and stock market co-movements has also been proven. The body of research conducted by ([Al-Nefaei and Aldhyani 2022](#); [Correa-Garcia et al. 2018](#); [Dospinescu and Dospinescu 2019](#); [Panyagometh 2020](#)) significantly contributes to the existing literature by enhancing our comprehension of the intricate relationship between financial communication and stock exchanges. [Panyagometh \(2020\)](#) meticulous analysis of the pandemic's impact on Thailand's stock exchange uncovers its profound effects on market behavior, investor sentiment, and overall performance, thus shedding light on the exchange's

vulnerabilities and resilience during times of crisis. [Dospinescu and Dospinescu \(2019\)](#) delve into financial communication practices within the Romanian stock exchange, utilizing a comprehensive profitability regression model to discern the influence of communication strategies on company performance. The outcomes of their study underscore the pivotal role of transparent communication in shaping profitability and facilitating informed decision-making processes within the Romanian stock exchange context. Similarly, [Correa-Garcia et al. \(2018\)](#) highlight the importance of effective corporate social responsibility (CSR) communication for Colombian business groups operating in the stock exchange arena. Through an exhaustive analysis of corporate reports, their research establishes a clear link between responsible corporate behavior, financial performance, and stakeholders' perceptions. This study accentuates the criticality of CSR communication in enhancing reputation and generating substantial value within the Colombian stock exchange. [Al-Nefaei and Aldhyani \(2022\)](#) employ sophisticated modeling techniques and historical data to predict close prices in the Saudi stock exchange. Their meticulous examination of intricate price patterns and dynamics provides invaluable insights that empower investors and market participants to make well-informed decisions and develop effective investment strategies within the Saudi stock exchange.

The spread of COVID-19, oil price instability, geopolitical crisis, and economic policy instability have been linked within a time-frequency system. COVID-19 significantly impacts global instability more than economic insecurity in the United States. Its vulnerability is regarded differently in the short and long term and can be viewed as a financial crisis at first. The increasing number of confirmed COVID-19 cases has a negative effect on stock market responses, but financial markets still react quickly to the pandemic. However, the timing of the reaction varies based on the epidemic level.

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