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Applying Artificial Intelligence, Global Stock Exchange Responded during Covid-19

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Abstract: *The analysis investigates the impact of the COVID-19-induced shutdown period on the Indian stock exchange. The review examines the extent of the lockdown's effects on the Indian financial exchange and whether or not COVID-19's pre- and post-lockdown market reactions would have been quite similar. The Market Model Event has a focus on strategy approach. In order to conduct the evaluation, 31 companies listed on the Bombay Stock Exchange (BSE) are used as an example. 35 days are used as the example time frame for the review (24 February-17 April, 2020). A 35-day occasion window was chosen, with 20 days prior to and 15 days during the event. The lockdown was declared by the authorities on this particular occasion (t1). The results show that the market reacted forcefully and decisively during the present lockdown period, and that financial backers anticipated the lockdown and responded forcefully. However, during the pre-lockdown period, financial backers froze, which was reflected in disappointing AAR. The analysis looks for evidence of a positive AR around the current lockout period and confirms that the shutdown significantly impacted stock trading till the situation in India was resolved.*

Keywords: Coronavirus; Event study; Lockdown period; Stock Market; Abnormal Return.

I. INTRODUCTION

The COVID incident has resulted in a pandemic of the respiratory infection (COVID-19), for which there are no available therapies or antibodies (Wang et al. 2020). The pandemic created major problems for both global economic growth and public health. The Corona Virus Disease for 2019 is referred to as COVID-19. This illness causes a mysterious pneumonia that was initially identified in Wuhan, China, and reported to the World Health Organization (WHO) on December 31st, 2019. On February 11, 2020, the World Health Organization announced that this lethal sickness had been given legal authorization.

On March 11, it declared COVID-19 a pandemic, citing more than 118,000 cases of the illness in 110 different countries and areas throughout the world as well as the substantiated risk of additional global spread. (Time 2020)

The second-largest nation in terms of population is India. According to World Bank data, India is home to 176 million people who are in need of assistance and also has the most low-paying jobs in hygienic facilities and medical offices worldwide. If COVID-19 spreads to its population, it would be a tragedy.

In any event, India was not far behind, and the main case was resolved on January 30, 2020; by April 17, 2020, 14,376 people had passed away. The government of India, led by Prime Minister Narendra Modi, proclaimed and requested a cross-country lockdown for 21 days on March 24, 2020, in order to stop the spread of the sickness. On April 14, the Prime Minister extended the cross-country lockdown until May 3 of that same year.

II. LITERATURE REVIEW

There haven't been many research done on the COVID-19 influence on the securities exchange since the WHO declared it to be a pandemic, as it is yet another global occurrence. The impact of COVID-19 on various economies has been examined in some detail, although the amount is still small.

In their study of market reactions to the COVID-19 on the firm's international exchange and monetary strategies, Ramelli and Wagner (2020) found a disappointing outcome for globally positioned US firms, particularly those with China openness and the US; markets moved quickly as the infection spread throughout Europe and the US. The author concluded by explaining how the financial situation was exacerbated through various financial channels as a result of the health disaster.

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In an effort to address issues related to the financial flow and the spread of viral diseases, Adda (2016) explored how to allocate the scarce resources to stop the spread of diseases and used a semi-experimental approach to evaluate the significance of the police when they were asked by the public authority to reduce relational contact and the closure of public transportation organisations.

Hang (2016) looks at the unnoticed factors that contributed to the growth of the Chinese offer market in the new decade and notes that data obstructing factors led to significant volatility in the Chinese offer market. Blocking data prevents offers from responding to external shocks and changing financial conditions, and it increases or decreases interest in shares when the stock is difficult to adjust. Additionally, data has an impact on the securities exchange of India's exhibitions; positive news or data directly influence the exchanging of offers and inflows, whereas negative news or data have an adverse effect that results in high unpredictability, which results in substantial surges on the lookout.

III. BENEFITS OF ONLINE STOCK TRADING

There are several benefits to stock trading online, whether you're an experienced stock broker or new to the market:

1. **Home-based:** Computers and the internet have improved online stock trading and elevated the company sectors. You may already swap stocks from the comfort of your home. Right now, you can trade stocks with just a computer and an internet connection. Earn money while still going about your daily activities at home. One of the primary advantages of stock trading is this.
2. **Minimal commissions:** The days when there weren't many stock brokers and they could levy hefty, gigantic charges on every trade you made are long gone. Numerous stock financier companies have sprung up all over the world with the advent of PCs and the internet. They compete with one another to attract the most clients, therefore they provide minimal commissions, the newest exchanging developments, and a variety of services. One of the main benefits of stock exchange is low commission.
3. **Totally available:** You have the option to invest in whatever company you like because there are so many equities to examine. You rule over yourself. Make your own decisions after conducting independent research.
4. **No time limit:** Online stock trading also offers the advantage of eliminating record-breaking criteria and restrictions. You can trade stocks anytime the timing is right, day or night.
5. **Bring in money quickly:** If you are aware of the patterns in financial trade, you can make a boatload of money in a matter of minutes. The process of carrying out a trade online has been around for as long as mouse clicks.
6. **No cap on venture size:** You are not constrained by any venture restrictions, which is still another major benefit of internet stock trading. Simply start trading stocks with as little or as much money as your budget will allow.
7. **Quick returns:** In contrast to other businesses, stock trading does not require you to have faith in the long-term viability of your firm. Additionally, there are no restrictions with advertising your goods or luring customers with alluring offers.

IV. DISADVANTAGES OF ONLINE TRADING

First-time investors could become engrossed in all the technology and momentarily forget that they are actually using real money. There is no mentoring relationship between an experienced trader and an online trading account user, who ignores the financial backer entirely and makes decisions on their own. Beginners who are intrigued about the mechanics of financial programming may make costly mistakes. The possibility of losing an exchange is a benefit of online trading. The financial backer may experience a great deal of disappointment if the component or system fails due to a slow online connection. The fees that the online reps charge is the other obstacle. Due to the fact that certain online middlemen charge dealers for lack of attention. If you assume they are trustworthy without checking them out, it will turn out to be very bad for you. If trades are conducted broadly on edge monthly programming consumption charges, there is a greater risk. The result of time affectability in nature is that most decision lapses are meaningless. This implies that every web-based trading merchant. Financial risk is a disadvantage of online stock trading. One thing that one should be aware of is the risk that internet-based stock trading presents, even if other bad aspects have been observed in exchanging meetings.

V. THE PROCESS OF TRADING ON A STOCK EXCHANGE

The following advancements are part of the trading system:

- **Establishing an intermediary:** Protections trade must be conducted by Stock Exchange employees who have been SEBI enrolled as intermediaries. The agent may be a person, a business, or a corporate entity. Choosing an agent to buy or sell safeguards for the financier or theorist is the first stage, therefore.
- **Opening a depository-based demit account:** To swap recorded protections in an electronic structure, an Indian resident must create a demit account with a storehouse member (banks or stock intermediaries). Opening a Demit account is the second stage in the exchange process. A storehouse in the electronic framework is where the defences are kept. A foundation or organisation that holds defences is called a vault. There are now just two shops in India: CDSL and NSDL (National Securities Depository Ltd.) (Central Depository Services Ltd.) Neither the financial backer nor the vault is in direct communication right now. As it were, the store works with financial sponsors through trusted members.
- **Making the Request:** The financial backer may make the request after creating the Demit Account. The middleman might be contacted directly, via phone, email, etc., or indirectly. Investors should clearly state in their request the range of prices at which safeguards can be sold.
- **Carrying out the Order**: The dealer performs the order in accordance with the financial backer's instructions, for instance by trading the protections. Dealer prepares a note of agreement for the executed request. The name and amount of the safeguards, the names of the meetings, and the financier he charged are all listed in the agreement note. The representative signs off on the contract note.
- **Settlement:** This denotes an actual exchange of safeguards. The exchange of protections between the representative and their client concludes with this step.

VI. CONCLUSION

India is a significant contributor to the global economy, which has been hit by the COVID-19 epidemic. Given that India has the second-largest population on the globe, the pandemic poses a special risk to India. The COVID-19 has a significant influence on virtually all global financial transactions. The infectious event caused a global standstill and ushered in the greatest emergency of the century. The major solution for preventing the illness from spreading until an antibody is available is an all-out lockdown and social segregation. India also reported the shutdown as a defensive action, however India announced slightly later, as seen by the period prior to the lockdown, during which the AAR was negative.

This is not an ideal situation, but there is a chance that the financial exchange will recover when the lockdown is removed and COVID-19 is eradicated from the country. The financial exchange responded strongly to the lockdown announcement, which was reflected in the financial exchange reaction.

The research finds evidence of a positive AR surrounding the present lockout time frame and confirms that the lockdown significantly affects the execution of financial transactions while the situation persists in the Indian context. Despite this, the result remained the same for the specific sample of BSE-recorded firms and for the time frame taken into account for the review.

It cannot be generalised to other traded equities, to other time periods, or to a new market environment. The implications of this study are that investors can take proactive measures before trading equities during a shutdown. Risk-averse investors should try to avoid trading during the lockout to avoid the risk associated with stock market instability during the lockdown period. Financial backers will benefit from this review's findings because it may help them better understand and evaluate the impact of the COVID 19-induced lockout on stock exchanges.

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