International Journal of Business Analytics
Volume 9 • Issue 1

Volatility in Indian Stock Markets During COVID-19:
An Analysis of Equity Investment Strategies

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ABSTRACT

The aim of the paper is to evaluate the impact of novel COVID-19 on the returns and volatility of Indian stock markets with special reference to equity investment strategies of the Bombay Stock Exchange. For the purpose of evaluating the impact, the study has applied GARCH. The research has considered a time frame from March 2015 to January 2021. Prior to implementing GARCH model, pre-estimation tests (i.e., augmented Dickey-Fuller and ARCH-Lagrange multiplier) were conducted. Outcomes clearly indicate that the returns during the crisis for all the strategy indices have been negative, which means that the COVID-19 outbreak resulted in massive losses. Additionally, 'during crisis' period showed an increase in volatility for all the strategy indices depicting that the pandemic has a long-lasting effect and will take time to fade off. This research will help the investors in the investment decision process by giving them insights about the different strategies.

KEYWORDS

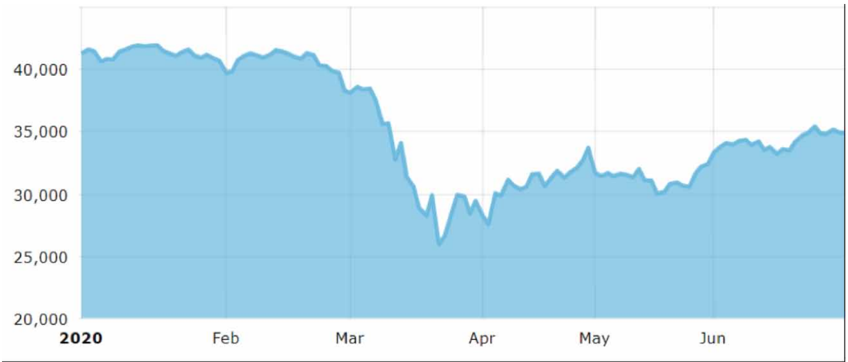
BSE, COVID-19, Equity Investment Strategies, GARCH, India, Indian Stock Market Performance

INTRODUCTION

COVID-19 has weakened the global economy and is considered to be a 'Black Swan' event for the world. Since the start of COVID-19 in late 2019, globally more than 88 million people have been affected by this virus and almost 2 million have succumbed to death. India is currently the 2nd most affected country as per the number of cases (as on 25th January 2021, as per WHO data available at: https://covid19.who.int/table). Naturally, the global economy took a serious hit and shrank by 4.3 percent in the last year. The world economy faced such a severe recession in 2020 that only the recessions caused by the two World Wars and the Great Depression could be termed as more serious than this one. Year 2020 can be termed as the 4th largest recession in last 150 years. In year 2021, the recovery path is still very uncertain with resurgence of cases and difficulties in vaccine distribution (The World Bank, 2021). The economic impact is affecting every country, but it's even graver for the developing economies. The pandemic has caused such widespread unemployment that millions of people have been tipped into poverty. Indian economy too has suffered extremely. India officially went into lockdown from 25th March, 2020 which brought with it a lot of chaos for

DOI: 10.4018/IJBAN.288512

Figure 1. S&P BSE sensex (Source: S&P BSE Sensex, available at: https://www.bseindia.com/sensex/code/16/)



the world's 2nd most populous country. The widespread panic especially among the migrant workers was unparalleled. The expected national income and growth figures tumbled, along with the stock markets. The Indian economy fell by 9.6 percent in the last calendar year, due to the government as well as private containment efforts leading to a slump in domestic consumption (Business Standard, 2021). A quick view of the Indian stock market is presented in Figure 1, which shows most widely used index of the country i.e., Standard & Poor Bombay Stock Exchange (S&P BSE) Sensex. The stock index took a sharp fall in March 2020.

Over the past few years, India's robust democracy and strategic partnerships have helped it to emerge into the fastest growing economy. With Asia's first stock market, Bombay Stock Exchange, or BSE, established in India in 1875, the Indian financial markets also saw rapid expansion and growth. With dematerialisation and introduction of new products and services, the financial markets have become greatly inclusive as well as efficient. S&P BSE SENSEX is the most widely tracked stock market index of India and is also traded internationally in EUREX and BRCS (Brazil, Russia, China and South Africa) nations' exchanges. The Indian stock markets provide a transparent and efficient platform for trading of equity and debt instruments, mutual funds, derivatives and currencies (BSE). National Stock Exchange (NSE) is another prominent stock exchange of the country which can be credited for bringing sophisticated technology to Indian markets. This has helped the inclusion of many more retail investors as well as foreign investors, which in turn has increased the prominence of Indian markets in the world markets. COVID-19 caused a vital shock to the entire world. It severely affected the stock markets as well, as shown by Liu *et al.* (2020a), Anh and Gan (2020) and Harjoto (2020). With the growing importance and interdependence of Indian markets vis-à-vis the world markets, it would be interesting to empirically study the impact of COVID-19 on Indian stock markets. Very few researches (Alam *et al.,* 2020b; Mishra *et al.,* 2020; Bora and Basistha, 2020) are done on Indian markets. All the researches, whether on Indian markets or on international markets have either been done on overall stock markets (AlAli, 2020a; Bash, 2020; Liu *et al.,* 2020a; Singh *et al.,* 2020) or on individual sectors like Automobiles, Travel and Energy (Alam *et al.,* 2020a; Maneenop and Kotcharin 2020; Polemis and Soursou 2020). The focus of the current paper is to analyse the impact of COVID-19 crisis on the different equity investment strategies used by investors. For active investors, the investment strategies are often the basic criteria for portfolio management. These investment strategies are formulated on the basis of the investors' goals, their risk tolerance and their expected time frame of capital needs. Some investors might seek a rapid growth while others might be interested in low risk investments. Investors' mindsets are represented by different types of strategies such as value investing which was developed by Benjamin Graham and David Dodd, popularised by Benjamin Graham's book *The Intelligent Investor*, and made fashionable by the world-famous investor Warren Buffett (The Heilbrunn Center for Graham & Dodd Investing). The

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