

Are Indian Stock Markets Reflecting the Economy in Pandemic (Covid 19)?

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Abstract:

“40% jump in Nifty from March lows” was one of the news update of ET Now dated June 05, 2020. The Indian stock market has bounced 40% from the lows caused by the pandemic. When still economic instability was persisting, bad news was all around, market gurus globally and locally have been advising caution, yet markets were going higher as if there is no tomorrow. The present study is a modest attempt in comparing Indian stock market movement vis-à-vis the actual economic situation as indicated by the key indicators.

Keywords: Nifty 50, GDP.

1. Introduction

“I really believe that you cannot use the stock market as a proxy for the economy.”- Howard Schultz.

“40% jump in Nifty from March lows” was one of the news update of ET Now[1] dated June 05, 2020. The Indian stock market has bounced 40% from the lows caused by the pandemic. When still economic instability was persisting, bad news was all around, market gurus globally and locally have been advising caution, yet markets were going higher as if there is no tomorrow. When pandemic broke and there were lock downs in most of the countries to arrest the spread of the deadly disease, supply chains were affected, manufacturing came to a standstill, all the countries GDP had a huge fall, this was reflected even in the stock market indices. But later when economy had not still completely revived and not yet reached to the pre pandemic level, yet stock market indices had gone much ahead of pre pandemic levels. This study will be focusing on the effect of pandemic on stock market vis a vis economy.

2.Literature review

Investors' are irrational and this irrationality is inevitable reality that has been time and again pointed out by researchers like Statman. Irrationality is an inevitable reality that has been time and again pointed out by researchers like Statman [2]. Yashraj et.al.[3] in their study on "Short-term impact of covid-19 on Indian Stock Market" had examined the short term impact of the pandemic on the Indian stock markets major index (Nifty 50) and its constituent sectors. As per their study all the sectors were impacted temporarily, yet the financial sector faced the worst. The researchers had focused on the fact that an actual investor cannot conform to the "rational" assumptions of the standard finance theories. They had argued that investors are not the calculative utility maximizing machines as the traditional theories believe them to be. Rather, they are led by their sentiments and are prone to make cognitive errors. They may lack self-control, can be over confident about their abilities, may miscalibrate information, and may also overreact or follow the crowd without thinking [4]. These errors can get projected in the form of market anomalies like speculative bubbles, for instance, the dot-com bubble of 1990's[5] and real estate bubble of 2006[6]. These events prove to be very costly in the stock market and they warrant the understanding of investment behavior, which has become important as ever. Thus, the need for comprehending such anomalies and shortcomings of human judgment involved with them became the precursor of behavioral finance. Behavioral finance deals with the influence of psychology on the behavior of financial practitioners and its subsequent impact on stock markets [7]. Supratik Sarkar[8] in his study titled "Covid-19 Impact on stock market and economy of India" had found out that the pandemic has led the market to crash however immediate necessary fiscal implementation of major economies have ensured the markets have also seen one of the fastest recoveries and thus providing unique opportunity to make right choices.

3.Objective of the Study

- To study the effect of Covid 19 on Indian stock market.
- To study the effect of Covid 19 on Indian economy.
- To compare the effects of Covid 19 on Indian stock market vis-à-vis effect of Covid 19 on Indian Economy.

4. Hypothesis of the study

H₀₁: There is no significant impact of Covid 19 on Indian stock market(NSE) as measured in terms of its broader market index (Nifty 50).

H₀₂: There is no significant impact of Covid 19 on Indian economy as measured in terms of GDP.

H₀₃: There is no significant difference in the impact of Covid 19 on Indian stock market and Indian economy.

5. Scope of the study

The performance of Nifty 50 and also GDP of India is studied for the period of two years, i.e from July 2019 to June 2021. Comparison of both Nifty 50 and GDP is done for the above given study period.

6. Methodology

The study has depended upon secondary sources of data.

The daily closing values of Nifty 50, the most popular index of NSE are considered for the study period that spans from July 2019 to June 2021. The Nifty 50 closing values for the above mentioned study period are further divided into quarters as given below:

July 2019-September 2019

October 2019-December 2019

January 2020-March 2020

April 2020-June 2020

July 2020-September 2020

October 2020-December 2020

January 2021-March 2021

April 2021-June 2021

The hypothesis set to achieve the first objective of the study is:

H₀₁: There is no significant impact of Covid 19 on Indian stock market(NSE) as measured in terms of its broader market index (Nifty 50).

ANOVA(one way) is the statistical technique to test the above mentioned hypothesis.

The quarterly GDP is been considered as the economic indicator for the study period of July 2019 to June 2021.

H₀₂: There is no significant impact of Covid 19 on Indian economy as measured in terms of GDP.

The arithmetic average of Nifty 50 is calculated and is being compared with the GDP for the respective quarters.

H₀₃: There is no significant difference in the impact of Covid 19 on Indian stock market and Indian economy.

To achieve the above mentioned hypothesis correlation analysis is done.

7. Analysis of Performance of Nifty 50(July 2019-June 2021)

It will be interesting to study the movements of Nifty 50 for the study period.

Nifty 50, the popular index of NSE was moving between 10900 to 12300 in the pre Pandemic quarters.

Nifty 50 closed at its peak of 12355 in Jan20-March 20 quarter and in the same quarter because of lock down it had a sharp plunge and it fell to 7610 .

Based on the methodology described above, ANOVA(Single factor) was employed to test whether there is any significant difference in Nifty 50 across the different quarters.The test results are given in the table below:

Table 1: ANOVA Single factor to test equality of means (July 2019-June 2021)

Anova: Single Factor						
SUMMARY						
Groups	Count	Sum	Average	Variance		
July 19-Sep 19	62	695923.05	11224.56532	112767.6365		
Oct 19-Dec19	60	710952.8	11849.21333	91886.74007		
Jan 20-Mar 20	64	716852.5	11200.82031	2095704.736		
Apr 20-Jun 20	59	560354.7	9497.53813	310331.023		

		5	6	7		
Jul 20-Sep 20	65	726496.8	11176.8738 5	87372.2653 2		
Oct 20-Dec20	62	783758.3	12641.2629	606582.887 4		
Jan21-Mar21	61	896366	14694.5245 9	152682.917 6		
Apr 21-Jun 21	61	923474.6	15138.9278 7	269023.656 6		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1547411996	7	221058856. 6	466.651448 7	3.9E- 211	2.02841 3
Within Groups	230224516. 8	486	473712.997 5			
Total	1777636513	493				

Source: Based on the results generated by using MS-Excel, to the secondary data

https://www.nseindia.com/products/content/equities/indices/historical_index_data.htm

H₀₁: There is no significant impact of Covid 19 on Indian stock market(NSE) as measured in terms of its broader market index (Nifty 50).

Calculated value of F is 466.65 for degrees of freedom 7 which is higher than the F critical 2.028. The significance value is 0000 which is less than 0.05 (at 5% level of significance), the null hypothesis is hence rejected. Hence it is concluded that there is significant difference between the Nifty 50 across the different quarters.

8. Analysis of GDP (July 2019-June 2021)

Table 2: GDP (Crore of INR at 2011-12 prices and at current prices)

	GDP(Crore of INR at 2011-12 prices)	GDP(Crore of INR at current prices)
July 19-Sep 19	3561530	4942940
Oct 19-Dec19	3607630	5182997
Jan 20-Mar 20	3833401	5220867
Apr 20-Jun 20	2695421	3888824

Jul 20-Sep 20	3296718	4726016
Oct 20-Dec20	3624266	5454921
Jan21-Mar21	3896335	5675909
Apr 21-Jun 21	3238020	5122877

Source: <https://statisticstimes.com/economy/country/india-quarterly-gdp-growth.php>

The GDP (Crore of INR at 2011-12 prices) and also GDP at current prices are taken from July 2019 to June 2021. The GDP had a huge fall in the first quarter of 2020, as can be observed from the above table. The GDP decreased from Rs. 5220867 Crores to Rs. 3888824 crores in the first quarter of 2020-21. There was a fall of around 25.51%. It can be further observed from the above table that it took two quarters for the GDP to come back to its previous level.

8. Comparative Analysis of Nifty 50 and GDP (July 2019-June 2021)

The daily closing prices of Nifty 50 were classified into quarters and arithmetic average is taken for each of the quarter so that it can be compared with the GDP for the respective quarter. The comparison of Nifty 50 with that of GDP is given in the table below:

Table 3: Comparison of Nifty 50 versus GDP (Crore of INR ar 2011-12 prices and at current prices)

	GDP(Crore of INR at current prices)	Nifty 50
July 19-Sep 19	4942940	11224
Oct 19-Dec19	5182997	11849
Jan 20-Mar 20	5220867	11200
Apr 20-Jun 20	3888824	9497
Jul 20-Sep 20	4726016	11176
Oct 20-Dec20	5454921	12641
Jan21-Mar21	5675909	14694
Apr 21-Jun 21	5122877	15138

Source: https://www.nseindia.com/products/content/equities/indices/historical_index_data.htm
<https://statisticstimes.com/economy/country/india-quarterly-gdp-growth.php>

It can be observed from the above table that when GDP fell by a considerable amount in the first quarter of 2020, even there was a huge fall in Nifty 50 also. Since arithmetic mean of Nifty 50 is calculated in each of the quarters so the variation in Nifty 50 does not seem so huge.

As a result of Pandemic Nifty 50 fell from its all time high of 12355 to 7610. There was a huge fall of 38% in Nifty 50 whereas there was a fall of 25.5 % in GDP of the respective quarter. So the impact of pandemic on Nifty 50 was more than its impact on GDP.

It took two quarters for the economy to settle down and come back to its previous levels. But amazingly Nifty 50 had surpassed its previous peak by a considerable amount.

H₀₃: There is no significant difference in the impact of Covid 19 on Indian stock market and Indian economy.

Correlation analysis is done to compare the impact of Covid 19 on stock markets versus impact of it on economy.

Karl pearsons correlation coefficient is found and the value is 0.73. This conveys that there is high degree of positive correlation between the two.

8. Conclusion

In the words of Meir Statman, “People in standard finance are rational. People in behavioral finance are normal”.

The stock market index is a barometer of nation’s economic health as market prices reflect expectations about the economy’s performance above all it measures the overall market sentiments, the investor’s behavior, and their expectations through a set of stocks that are representative of the market. The Nifty 50 Index represents about 62.9% of the free float market capitalization of the stocks listed on NSE as on March 31, 2017. So it is justifiable to study the Nifty 50 in order to draw some meaningful conclusions about the overall market. The indices are termed as leading economic indicators as they are based on future expectations. Discounted cash flow analysis is the appropriate way of valuing a company. However this requires a lot of hard work in understanding the business dynamics and making the relevant assumptions to come to fair valuations. The stock market moves very fast and the lure of making a fast buck before the neighbor does is so great that shortcuts or the rules of the thumb have become the innovations of the valuation game. Investment strategies that exploit emotions have existed for centuries, the newest and most promising area of behavioral finance focuses on identifying mental mistakes

regularly made by investors. These strategies do more than just examine the fundamentals of companies or the feelings of investors.

In this research paper a modest attempt has been done to analyze the impact of Covid 19 on the performance of the Nifty 50 from the year 2019 to the year 2021. As a result of Covid 19 there was a huge fall in Nifty 50, it fell to 7610 which are the levels that existed in 2014 but as there was an improvement seen in the economy there was more than proportionate change in Nifty 50. Nifty 50 has surpassed its previous peak. The fall in the GDP took around two quarters to come back to its previous levels whereas Nifty 50 had gone beyond its previous levels.

9. Limitations and scope for further study

The present study is limited only to Nifty 50 and does not include other non-indexed stocks. In case of considering impact of Covid 19 on Indian economy only one economic indicator is taken i.e GDP. The study can also be extended to the other sectorial indices and also other economic indicators can also be included. The reasons behind more than proportionate change in Nifty 50 can be further studied.

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