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Market capitalization: Pre and post COVID-19 analysis

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ABSTRACT

This research paper focuses on the impact of COVID-19 on Indian Stock Market and shares performance. In other words, the article analyses the market capitalization correlation between the performances of shares and the growth of the share market, using the stock market data of Pre and post COVID-19 status by comparing the data from Jan'20 to Jun'20. The variables have positive and statistically strong significance on the changes in the market's performance and the value of its market capitalization.

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1. Introduction

Pre COVID-19, market capitalization on each major exchange in India was about \$2.16 trillion. The 2019 stock market rally was limited to 8–10 stocks within the large caps. The Sensex returned around 14% (excluding dividends) for the year 2019 but prominently featured blue-chip companies such as HDFC Bank, HDFC, TCS, Infosys, Reliance, Hindustan Unilever, ICICI Bank and Kotak Bank, without which Sensex returns would have been negative. However, in the start of 2020, there was overall recovery which led to both NSE and BSE traded at their highest levels ever, hitting peaks of 12,362 and 42,273 respectively. At the beginning of the year, there were close to 30 companies that were expected to file IPO's. The market conditions were generally favorable as they witnessed record highs in mid-January.

Ever since COVID 19 strike, markets loom under fear as uncertainty prevails. It has sent markets around the world crashing to levels not witnessed since the Global Financial Crisis of 2008. Following the strong correlation with the trends and indices of the global market as BSE Sensex and Nifty 50 fell by 38 per cent. The total Market Capitalization lost a staggering 27.31% from the start of the year. The stock market has reflected the sentiments this pandemic unleashed upon investors, foreign and domestic alike. Companies have scaled back; layoffs have multiplied and employee compensations have been affected resulting in negligible growth

in the last couple of months. Certain sector such as hospitality, tourism and entertainment has been impacted adversely and stocks of such companies have plummeted by more than 40%.

2. Background of the study

Market Capitalization is the value of a public company in the stock market. It is based on the current share price and the total number of outstanding shares of a company. It is the total market of a company's outstanding shares of stock. It is calculated by multiplying the total number of a company's outstanding shares by the current market price of one share. Let's assume that a company has 1 million shares to sell and the market price of a share is Rs 100. Then, the Market Capitalization of the company will be $1,000,000 \text{ (shares)} \times \text{Rs}100 = \text{Rs } 100,000,000$.

Market Capitalization plays an important role in determining the size of a company. It gives an investor an insight to the future prospects of the company and whether or not they should invest. It also lets us know how much an investor is willing to pay for the shares of the company.

2.1. Importance of Market Capitalization in investment

Before investing in a stock, it is important to not only compare the price of the individual share but compare the Market cap. Market Capitalization gives a clear picture of a company's value, the risks involved and helps in diversifying portfolios with company of different sizes. The Market Capitalization of a company determi-

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nes which broad category of publicly traded company it falls under: small cap, mid cap, or large cap.

Companies are typically divided in the following way according to market capitalization:

- i) Large-cap: These are generally fully fledged, developed and well-known companies within established industries with a market value of \$10 billion or more.
- ii) Mid-cap: These are established companies whose industries are experiencing or are expected to experience rapid growth with a market value of between \$2 billion and \$10billion.
- iii) Small-cap: These are young companies that serve emerging industries with a market value less than \$2 billion.

Large-cap companies generally have a market capitalization of \$10 billion or more. These companies are the ones that have been around for a long time, and they are major players in well-established industries. Investing in large-cap companies does not necessarily bring in huge returns in a short period of time, but over the long run, these companies generally reward investors with a consistent increase in share value and dividend payments. These companies are considered less risky as the prices remain relatively stable due to them being in the market for a long time. Some examples of large-cap companies are Reliance Industries, HDFC Bank, ITC, etc (Figs. 1–4).

Mid-cap companies generally have a market capitalization of between \$2 billion and \$10 billion. These are established companies that operate in an industry expected to experience rapid growth. They are in the process of expanding. They carry a higher risk than large-cap companies because they are not as established, but attract investors with their growth potential. An example of a mid-cap company is Eagle Materials Inc (Tables 1 and 2).

Small-cap companies are those companies that have a market capitalization of between \$300 million to \$2 billion. These small companies could be young in age and/or they could serve niche markets and new industries. These companies are considered higher risk investments due to their age, the markets they serve, and their size. These companies are small with fewer resources and are more sensitive to economic slowdowns. As a result, small-cap share prices tend to be more volatile and less liquid than more mature and larger companies. At the same time, small companies often provide greater growth opportunities than large-caps as higher the risk, higher the returns.

Even smaller companies with values between approximately \$50 million and \$300 million are known as micro-cap.

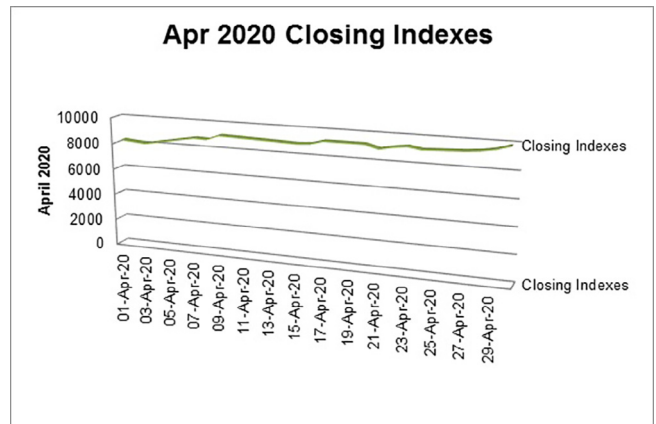


Fig. 2. Apr 2020 Closing Indexes. Source: <https://www.nseindia.com>.

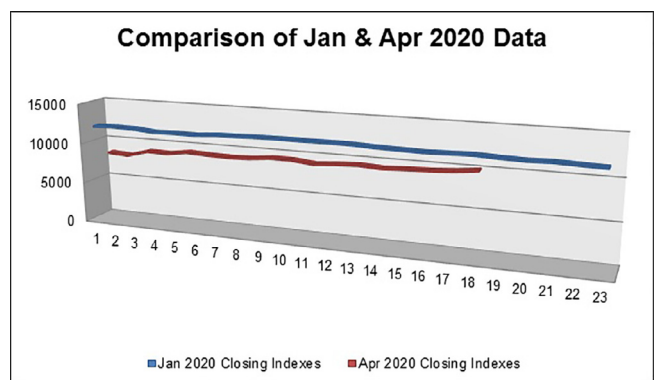


Fig. 3. Comparison of Jan & Apr 2020 Data. Source: <https://www.nseindia.com>.

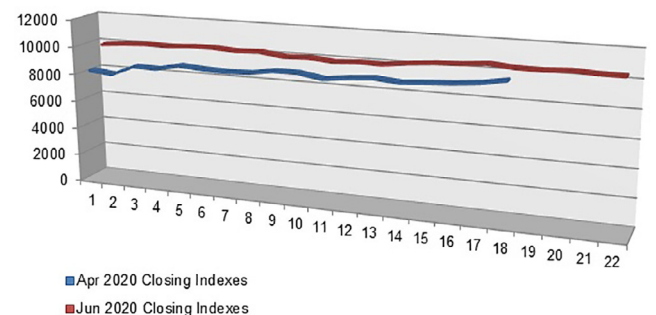


Fig. 4. Comparison of Apr & Jun 2020 Data. Source: <https://www.nseindia.com>.

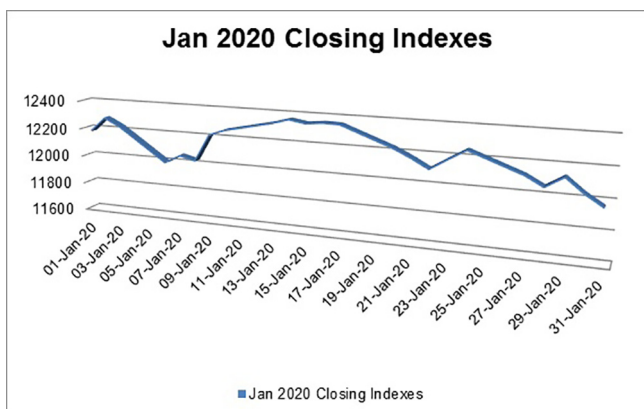


Fig. 1. Jan 2020 Closing Indexes. Source: <https://www.nseindia.com>.

Table 1

A Comparison of Pre and Post COVID View of Indian Stock Markets-Source: Business world, Jun 2020.

Bourses	Indexes-14 Jan 20	Indexes-24 Apr 20	Indexes-24 Jun 20
Nifty 50	12,362	9154	10,305.3

2.2. Understanding Market Capitalization

Recognizing the value of a company is a very important yet difficult task. Business requires fast results and hence, knowing the value of a company quickly is necessary. Here, Market Capitalization plays a very important role as it is a fast and easy method in evaluating a company’s value by simply multiplying the share price by the number of shares available.

Table 2
A Comparison of Nifty50 – Jan 2020 and Apr’ 2020 closing Indexes of Indian Stock Markets-Source: <https://www.nseindia.com>.

Jan'20 data		Apr'20 Data		June'20 data	
Date	Closing Indexes	Date	Closing Indexes	Date	Closing Indexes
01-Jan-20	12182.5	01-Apr-20	8253.8	01-Jun-20	9826.15
02-Jan-20	12282.2	03-Apr-20	8083.8	02-Jun-20	9979.1
03-Jan-20	12226.7	07-Apr-20	8792.2	03-Jun-20	10061.6
06-Jan-20	11993.1	08-Apr-20	8748.75	04-Jun-20	10029.1
07-Jan-20	12,053	09-Apr-20	9111.9	05-Jun-20	10142.2
08-Jan-20	12025.4	13-Apr-20	8993.85	08-Jun-20	10167.5
09-Jan-20	12215.9	15-Apr-20	8925.3	09-Jun-20	10046.7
10-Jan-20	12256.8	16-Apr-20	8992.8	10-Jun-20	10116.2
13-Jan-20	12329.6	17-Apr-20	9266.75	11-Jun-20	9902
14-Jan-20	12362.3	20-Apr-20	9261.85	12-Jun-20	9972.9
15-Jan-20	12343.3	21-Apr-20	8981.45	15-Jun-20	9813.7
16-Jan-20	12355.5	22-Apr-20	9187.3	16-Jun-20	9914
17-Jan-20	12352.4	23-Apr-20	9313.9	17-Jun-20	9881.15
20-Jan-20	12224.6	24-Apr-20	9154.4	18-Jun-20	10091.7
21-Jan-20	12169.9	27-Apr-20	9282.3	19-Jun-20	10244.4
22-Jan-20	12106.9	28-Apr-20	9380.9	22-Jun-20	10311.2
23-Jan-20	12180.4	29-Apr-20	9553.35	23-Jun-20	10,471
24-Jan-20	12248.3	30-Apr-20	9859.9	24-Jun-20	10305.3
27-Jan-20	12,119			25-Jun-20	10288.9
28-Jan-20	12055.8			26-Jun-20	10,383
29-Jan-20	12129.5			29-Jun-20	10312.4
30-Jan-20	12035.8			30-Jun-20	10302.1
31-Jan-20	11962.1				

A company's value is the fundamental determinant in which the investors hold great interest. It helps them in choosing from various stocks available and makes it easy to compare various companies and ascertain the risk involved.

To understand comparison of companies let us take an example where there are two companies namely 'Company A' and 'Company B.'

'Company A' with 10,000 shares selling at \$1,000 a share would have a Market Capitalization of \$10 million whereas 'Company B' with a share price of \$100 with 20 million shares outstanding, would have a Market Capitalization of \$2 billion.

The formula for market capitalization is:

$$MC = N \times P$$

where, *MC* is the market capitalization, *N* is the number of shares outstanding, and *P* is the closing price per share.

This easy way helps an investor in deciding which company to invest in and also helps in ascertaining risks and potential growth of the company.

2.3. How Market Capitalization is established?

Market Capitalization is established at the time a private company decides to go public. The said company, with the help of investment banks in the market determines how many shares will be offered to the public and at what price. This is known as 'Initial Public Offering' and is the first step towards initiating the Market Capitalization.

After a company goes public and starts trading on the exchange, its share price is regulated based on the demand and supply of its shares in the market. If there is a high demand for its shares due to favorable factors, the price would increase. If the company's future potential doesn't look good, the price of the stock will decrease. The Market Capitalization thus, becomes a real-time estimate of the company's value.

3. Literature review

[5] and Jha [4], "new issues comprise a category of stocks which falls outside the usual evaluation technique." A new issue can be

said to be the first sale of stock by a company to the public. Companies sell their stocks to the public when their physical resources have been utilized to the maximum and they need new capital for expansion and other related purposes. However, the need for this market arises when business prospects become bright and more capital is raised to meet these prospects. As a nation's economy grows and develops, the volume of new issues of securities also increases. The modes of offers of securities traded in this market include offer for subscription, right issue, offer for sale and private placement.

Few Ekanem [1,2] and Jha [4] have argued that stock markets might even be a good predictor of the economy of a nation, since stock prices may be a leading indicator of the general economic expansion and contraction. Jha [4] notes that the importance of the stock exchange lie in the fact that it promote businesses and the economy in the following ways:

- i) The stock exchange helps companies and businesses to raise capital needed for operation, production, expansion and development.
- ii) The Government, which is a big borrower of funds, can raise money through the stock exchange when she issues and sells government stocks or bonds.
- iii) The stock exchange also encourages investment in the economy, since it provides an avenue that makes it easy for shareholders to buy and sell shares on the floor through stock brokers who work directly on the exchange. Also, since shares can be reconverted easily to cash by selling them on the exchange, investment is thus promoted.
- iv) Likewise in other nations, the National Stock Exchange provides a financial market for investors to buy and sell their shares and other securities easily.
- v) The stock exchange provides professional advice on the selection and management of investments in the country. With the investing public professionally advised on investments, they are encouraged and mobilized to invest and this raises living standards in the long run.
- vi) The activities of the exchange, companies are compelled to perform well and competitively. Only viable, efficient and profitable companies can have their stocks listed on the exchange. Also, the exchange requires regular reports from the companies and this encourages proper financial management and accounting. Therefore, companies strive hard to perform well and this generally helps to enhance economic development.
- vii) In order to secure the confidence of investors in part and the economy in general,

the stock exchange establishes rules and regulations, guidelines and procedures which make sure dealings are done or carried out properly, professionally, transparently, efficiently and not fraudulently.

[6] examined the relationships between stock market capitalization rate and interest rate. They used the ordinary least-square (OLS) regression method and they found that the prevailing interest rate exerts positive influence on stock market capitalization rate. Also, they are finding that Government development stock rate exerts negative influence on stock market capitalization rate and prevailing interest rate exerts negative influence on government development stock rate. Kurihara [3] suggests that stock market capitalization rate is significantly influenced by the macroeconomic environment factors such as gross domestic product, exchange rates, interest rates, current account and money supply.

4. Objectives of the study

- To understand how the Indian stock market is run, particularly as it pertains to the stocks of pre and post COVID-19.
- To analyze the effects on performance of the stocks post COVID-19 spike in India.
- To make concrete and justifiable conclusions and recommendations based on the findings of the study.

5. Research methodology

The secondary data collected from records of the companies, dealers. The data of past indices also have been collected. The secondary data has been collected to cover every aspect of the study. The secondary data shows the Indian stock market bourses data month wise, pre and post COVID-19. These data used in combination as per need of the study. These data having different merits and demerits and have serves our purpose of the research study. A variety of secondary information sources is available to gathering data on the market place.

6. Data analysis

6.1. The market before Covid-19

Pre COVID-19, market capitalization on each major exchange in India was about \$2.16 trillion. The 2019 stock market rally was limited to 8–10 stocks within the large caps. The sensex returned around 14% (excluding dividends) for the year 2019 but prominently featured blue-chip companies such as HDFC Bank, HDFC, TCS, Infosys, Reliance, Hindustan Unilever, ICICI Bank and Kotak Bank, without which Sensex returns would have been negative. However, in the start of 2020, there was overall recovery which led to both NSE and BSE traded at their highest levels ever, hitting peaks of 12,362 and 42,273 respectively. At the beginning of the year, there were close to 30 companies that were expected to file IPO's. The market conditions were generally favorable as they witnessed record highs in mid-January.

6.2. Impact of COVID 19 on the Indian stock markets

History is proof that sometimes events occur that nobody predicted or imagined could happen. These are events that leave everyone by surprise to an extent that create havoc and chaos in human activities and disrupt the human life. These events are called black swans. This term was derived in 1697 when mankind believed that all swans were white until Dutch explorers sighted black swans for the first time in Western Australia, completely

invalidating the fact that swans could only be white. The Impact of novel corona virus (COVID-19) on the stock market is one such event, which has all characteristics of a black swan.

The stock market across the world came crashing down with the rise of Covid-19. It has brought the entire world to a halt including the world of business. The markets around the world have come crashing down to a level last seen during the financial crisis of 2008. Although the world has seen a market crash before, the impact due to covid-19 is unusually different as the pandemic is widely spreading due to which there is a lot of uncertainty in the market. The country went into a complete lockdown for almost a period of 3 months which has taken a toll on various economic activities.

The tabulated data shows the Indian market closing stock indexes of Nifty 50 for the month of January, April and June 2020. It can be observed that before the COVID-19 virus hit India, the stock market was performing very well in the month of Jan'20. It started to fall in the end of March'20 and it crashed in the month of April'20 when the country went into a nationwide lockdown. As the country started Unwinding the lockdown and restarted the economic operations in the due end of May, stock indexes started picking its speed up on the way to recovery as it can be seen in the June 2020 data.

7. Results & discussions

Following the strong correlation with the trends and indices of the global market as Nifty 50 fell by 38 per cent. The total Market Capitalization lost an astonishing 27.31% from the start of the year. The stock market has done nothing but reflected the attitude of investors globally due to the pandemic. Companies have started to scale back with their spending resulting in layoffs and unemployment.

Sectors like travel and transportation, entertainment industry, oil & gas have been the most affected. Stocks of these companies have come crashing down more than 40%. Several companies have declared bankruptcy due to a non-functioning business as a result of the lockdown.

The IT sector has also suffered as several companies have seen a drop in their revenue due to the global cut off on spending on technology because of the lockdown. However, there are also certain business sectors that are immune to the impact of corona virus or if not, will be able to revive faster than the other sectors. These sectors include healthcare, banking, telecommunications and retail such as groceries.

7.1. Recovery in the current times

An unfortunate pandemic, the Covid-19 has resulted in an economic, financial and medical crisis in the country. These are tough times but humankind is known to be tougher and will bounce back from this stronger than ever.

To revive the economy and boost the business, a smart recovery plan is essential.

The county needs to focus on attracting foreign investments and must reduce importing products. We must encourage products made in India and support local producers. The RBI and the Government of India has come up with a number of reforms such as reductions of repo rate, regulatory relaxation by extending moratorium and several measures to boost liquidity in the system in response to the current situation and keeping in mind the chaos the pandemic has created.

The government must focus on its Make in India initiatives, commercialization of Indigenous technology, developing a technology-driven transparent Public Distribution System (PDS),

efficient rural health care delivery, reduction of import, adoption of emerging technology domains like AI, Machine Learning, Data Analytics and many more. Companies with innovative products, increasing distribution reach, technology-driven processes and healthy balance sheet would revive the growth momentum post lockdown. The only way to revive the economy is to strengthen the skills of its citizens and become self-sufficient as a country.

As for the outlook for the market, looking back at its history we know for sure that a crisis however long doesn't last forever. Drops in BSE sensitive index are temporary, and each dip provides investors with the opportunity to enter the market and earn a higher return especially for those with long term horizon. Moreover, the higher the fluctuations, the higher chances of getting better returns. The world is competent enough to come up with answers to combat the pandemic. It is certain that the markets will bounce back soon the crisis gets over.

8. Conclusion

Until a medical vaccine or other medical solution is found for the Covid-19, it would be hypothetical to expect a quick economic rebound from the current effect of the pandemic.

Once the pandemic is over normalcy will surely return to the business and economy, the stock market will start moving in a positive direction, and as witnessed in the past, recovery would be faster than expected.

8.1. Scope of future research

Study on Indian stock market and its analysis of pre and post COVID-19 conditions has etched a large platform for researchers to continue the study effect of the same on stock prices and on country's economy as a whole in the further days. We wish the

researchers to make the study area broader by contributing on the above said topic.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

- [1] W. Ekanem, *Investment Opportunities in the Capital Market*, The NSE Market Annual, 2003.
- [2] W. Ekanem, *Stimulating the Growth of Indigenous Enterprises*, The NSE Market Annual, 2003.
- [3] Y. Kurihara, *The relationship between exchange rate and stock prices during the quantitative easing policy in Japan*, *Int. J. Bus.* 11 (4) (2006) 375–386.
- [4] R. Jha, *Macro Economics for Developing Countries*, second ed., Routledge, London, 2003.
- [5] Fosback V.G., (1991), *Stock Market Logic: A Sophisticated Approach to Profits on Wall Street*, New York: Florida Dearborn Financial Publishing Incorporated.
- [6] Ologunde, A., Elumilade, D., Saolu, T., 2006. "Stock market capitalization and interest rate in Nigeria: A time series analysis," *International Research Journal of Finance and Economics*, Issue 4, pp.154-67.

Further Reading

- [1] <https://indianmoney.com/articles/market-capitalization-in-india>.
- [2] https://www.nseindia.com/products/content/equities/indices/historical_index_data.htm.
- [3] G. Kaul, *Monetary regimes and the relation between stock returns and inflationary expectations*, *J. Financial Quantitative Anal.* 25 (1990) 307–321.
- [4] Matthew Oluwatoyin, Olusegun Odularu Gbadebo, *The impact of share market capitalization on a company's performance*, *Afr. J. Bus. Manage.* 3 (5) (2009) 220–226, ISSN 1993-8233.
- [5] Panagiotidis, Theodore (2005), *Market capitalization and efficiency - Does it matter? Evidence from the Athens Stock Exchange*, *Applied Financial Economics*, Pg 15.
- [6] I.M. Pandey, *Financial Management*, eighth ed., Vikas Publishing House, PVT Ltd, New Delhi, 1999.