

Do Stock Returns Reflect the Influence of the Pandemic on Businesses? An Empirical Study from the Indian Capital Market

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Abstract

This research study aims to explore whether the impact of the pandemic on different sectors was reflected in the stock market returns or not. The study has taken eight sectors of the Indian economy and started with the assumed impact of the pandemic on those industries based on popular perceptions. Then, it validated the assumed impact with the help of the analysis of the financial statements. Once the impact has been validated with the help of the financial statements, the effect on the stock market returns has been computed by comparing the changes in the stock returns for each industry with those in the index returns from the pre-pandemic times to post-pandemic times. The study reveals that the stock returns in most of the sectors reflected the influence of the pandemic on the businesses with a few exceptions. The exceptions where the stock market returns did not reflect the influence of the pandemic have been explained with the help of the measures taken by the businesses to mitigate the effect of the pandemic or with the help of other intervening factors.

Keywords

Coronavirus pandemic, business cyclicity, equity returns, economic development, business performance

Introduction

The Covid-19 pandemic has impacted economies across the globe (Dinh & Narayan, 2020; Salisu et al., 2022). Since the advent of the pandemic was followed

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by lockdowns, it led to the recessionary phase in the business cycle of most of the nations. The recessionary phase is bound to occur as a natural phenomenon in the business cycles. However, recessions differ from each other in terms of nature, policy response and structural disruption caused. For example, COVID-19 was a biological disaster that gradually evolved into an economic crisis (Ozili, 2020) as against the subprime crisis of 2008 and the dotcom crash of 2000 which were driven by financial indiscipline (Jermann & Quadrini, 2012). In addition, COVID-19 has been claimed to be one of the most severe and dangerous crises in the history of mankind (Sukharev, 2020).

The pandemic brought a mixed bag of outcomes for the different sectors. While certain sectors have been positively impacted by the pandemic, many of the sectors have been negatively impacted. There also exist a few industries such as the fast moving consumer goods (FMCG) industry that have not witnessed any significant growth or decline with the pandemic.

It has been said that the market returns on an equity stock are a reflection of the performance of the underlying firms (Mohanram, 2005). It is expected that the firms should witness higher-than-average returns on their stocks during the positive business cycles and lower-than-average returns on their stocks during the negative business cycles. The relevance of financial reporting to the stock markets can be even more for the emerging markets than the developed economies (Mirza et al., 2019). In addition, stock markets have been proven to be a reflection of economic growth also (Hoque & Yakob, 2017).

The initial response of the overall stock markets to the pandemic was negative but short-lived (He et al., 2020). There was increased volatility in the markets globally during the initial stage of the pandemic (Mobin et al., 2022; Rakshit & Neog, 2021). Post that, the equity markets World over have witnessed a substantial rise in the overall index value, implying that there has been a positive impact of the macroeconomic factors such as easing of liquidity measures and pumping of money by the government into the economy. In such a case, it can be expected that the sectors that are positively impacted by the pandemic must witness a higher rise in their returns as compared to the rise in the returns on the market index. At the same time, the sectors that are negatively impacted by the pandemic must witness a lower rise or a fall in their returns as compared to the rise in the returns on the market index.

In addition, it has been observed that the firms that have been able to digitalise their business processes were better prepared to face the challenges posed by the pandemic (Matalamaki & Joensuu-Salo, 2021; Xu et al., 2021). So, within any sector, different firms can have been impacted in different ways by the pandemic depending on their level of agility, contingency plans, and so on. In addition, the degree of agility exhibited by a firm is dependent on the organisational systems (Mandal & Dubey, 2021), supply chain resilience (Nikookar & Yanadori, 2022; Panigrahi et al., 2022), human capital management strategy (Alipour, 2012; Douglas, 2021; Moustaghfir, 2008; Nadeem et al., 2017), creative climate (Farooq et al., 2021; Ibarra-Cisneros & Hernandez-Perlines, 2020; Mafabi et al., 2015), innovation (Ammirato et al., 2021; Pratono, 2021), ability to cope up with threats

and take advantage of the opportunities (Waal, 2021), risk management solutions (Calandro & Lane, 2006), and so on.

There has not been any research study to validate the effect of pandemic-induced performance changes on the stock market returns. Therefore, this study intends to confirm whether the effect of the pandemic on the sector's performance in India is reflected in its equity returns or not. This is particularly important to check since the investors are subject to bounded rationality, and there is some herding behaviour that the markets got subjected to during the crisis period (Wu et al., 2020), along with the information asymmetry (Park et al., 2021).

This research study has been structured as follows. The first section discusses the motivation behind the study while the second section performs the review of the existing literature on the topic, and identifies the gap in the existing literature that this study addresses. The second section also results in deriving the research hypothesis that this study attempts to test. The third section discusses the research methodology in detail and explains the three broad steps followed in this study. The fourth section elaborates the findings of the study, while the fifth section sheds light on the implications of this research study for the investors. The fifth section concludes the article while mentioning the limitations of the research and the possible research extensions of this study that can be explored in the future.

Literature Review and Research Hypothesis Formation

COVID-19 has been a very severe pandemic and has brought about the worst economic recession in the past (Borio, 2020; Chaudhary et al., 2020; Verma et al., 2021). Many of the industries bore the brunt of the pandemic. Some of such examples are aviation (Abu-Rayash & Dincer, 2020; Agrawal, 2020; Sun et al., 2021), travel and tourism (Mroz, 2021; Skare et al., 2021; Toubes et al., 2021), and hospitality (Crespi-Cladera et al., 2021; Pillai et al., 2021; Sharma et al., 2021).

There also exist cases of a few industries that have benefited immensely from the pandemic. A few such examples are Edu-tech (Damşa et al., 2021; Maity et al., 2021; Milenkova & Lendzhova, 2021), healthcare (Nguyen et al., 2021), insurance (Harris et al., 2021; Riyazahmed, 2021), IT-enabled services (Bai et al., 2021; Casale et al., 2021; Dash & Chakraborty, 2021; Feroz et al., 2021) and e-commerce (Silva & Bonetti, 2021; Singh et al., 2021). While a few sectors such as the FMCG sector have been quite neutral to the influence of the pandemic (Shetty et al., 2020).

The cash flows from all three types of activities, whether operating, investing, or financing influence the stock returns (Chu, 1997). Therefore, returns on any equity stock are dependent on the fundamental performance of a firm (Navas et al., 2016). In addition, analysing the financial performance of the stocks before investing leads to significantly better returns on the investing decisions (Piotroski, 2000).

Post the pandemic, almost all the capital markets the world over have seen a bull run with the market capitalisation having substantially increased as a percentage of economic output or GDP. In the Indian equity market, the market

cap to the GDP ratio got close to 1 for the first time in the history of the Indian equity market. The overall market index has almost doubled in the period from April 2020 till December 2021.

As the returns in the equity markets are dependent on the underlying performance of any sector, it can be expected that the increase in returns for the pandemic-positive sectors should significantly exceed the increase in market returns. Similarly, the increase in returns in the pandemic-negative sectors should be lower than those in the market returns. Since no research work has been done to validate this hypothesis, this research study has been taken to check whether the stock market returns reflect the pandemic's influence on the underlying firms or not. Therefore, the hypothesis to be tested are as follows:

For the pandemic positive sectors (IT services, edutech, pharmaceutical, insurance, medical equipment and supplies):

$$H_0: (\Delta MR \text{ of the sector})_{\text{post-pandemic}} \leq (\Delta MR \text{ of the sector})_{\text{pre-pandemic}}$$

$$H_1: (\Delta MR \text{ of the sector})_{\text{post-pandemic}} > (\Delta MR \text{ of the sector})_{\text{pre-pandemic}}$$

where

$$(\Delta MR \text{ of sector } j)_{\text{post-pandemic}} = MR_{\text{post-pandemic for sector } j} - MR_{\text{post-pandemic for index}}$$

$$(\Delta MR \text{ of sector } j)_{\text{pre-pandemic}} = MR_{\text{pre-pandemic for sector } j} - MR_{\text{pre-pandemic for index}}$$

For the pandemic negative sectors (aviation, hospitality, media, tourism, automotive, retailing):

$$H_0: (\Delta MR \text{ of the sector})_{\text{post-pandemic}} \geq (\Delta MR \text{ of the sector})_{\text{pre-pandemic}}$$

$$H_1: (\Delta MR \text{ of the sector})_{\text{post-pandemic}} < (\Delta MR \text{ of the sector})_{\text{pre-pandemic}}$$

For the pandemic neutral sector (fast moving consumer goods)

$$\text{Test 11: } H_0: (\Delta MR \text{ of the sector})_{\text{post-pandemic}} = (\Delta MR \text{ of the sector})_{\text{pre-pandemic}}$$

$$H_1: (\Delta MR \text{ of the sector})_{\text{post-pandemic}} \neq (\Delta MR \text{ of the sector})_{\text{pre-pandemic}}$$

Research Methodology

The research methodology can be explained to consist of three key steps as mentioned below:

Step 1: Classification of sectors based on the assumed influence of the pandemic as per the prevailing construct.

Step 2: Validation of the prevailing-construct-based classification with the analysis of the financial statements for each sector.

Step 3: Validating whether the influence of pandemic is reflected in the stock returns.

Discussion on Step 1 (Classification of Sectors Based on the Assumed Influence of the Pandemic as per the Prevailing Construct)

First of all, the sectors were classified based on the prevailing construct for being positively or negatively influenced by the pandemic. This resulted in the following categorisation:

Industries that are assumed to be positively affected by the pandemic

1. Edutech
2. Information technology (IT) services and consulting
3. Life and health insurance
4. Medical equipment, supplies and accessories
5. Pharmaceutical (healthcare)

Industries that are assumed to be negatively affected by the pandemic

1. Automobiles
2. Aviation
3. Film production, distribution and entertainment (media)
4. Hotel, resorts and restaurants (hospitality)
5. Travel services (tourism)
6. Retailing

Industries that are assumed to be not affected by (or neutral to) the pandemic

1. Fast moving consumer goods

Discussion on Step 2 (Validation of the Prevailing-Construct-Based Classification with the Analysis of the Financial Statements for Each Sector)

In this step, the top stocks by market capitalisation from among the NIFTY 50 stocks were selected in each sector. For those sectors that had inadequate representation in NIFTY 50, even the stocks outside NIFTY 50 were selected to have a minimum of three stocks for each of the sectors.

The rationale for using NIFTY 50 as an index is that it has been used by many studies earlier in the field of equity research, some of which are Agarwalla et al. (2021), Dungore and Patel (2021), Shaik and Gulhane (2021) and Parab et al. (2020). Nifty and tertiary sectors are positively related to each other (Swaroop & Mishra, 2018). Since the tertiary sector is the bigger contributor to the India growth story, NIFTY 50 can be considered a true reflection of economic development. Hence, the authors used NIFTY 50 as the index. It has also been established that stocks are a significant indicator of economic development (Atje & Jovanovic, 1993; Caporale et al., 2004; Duca, 2007).

Then, the financial statements of the selected firms in each sector were sourced from moneycontrol.com and analysed to validate the assumed effect of the pandemic. The annual total income and EBITDA of each company was taken from 2017 to 2021. The annual growth rate was computed for the period before

the pandemic (FY 2017, 2018, 2019) and the period after the pandemic (FY 2020 and FY 2021). The relevant financial ratios of the sectors were also considered, and the changes in these ratios were studied for the period before and after the pandemic. The weighted average of the growth rate of all the companies in the sample was considered as a proxy of the overall % growth of that whole sector.

This financial analysis of the different sectors is also shown in Tables A2.1, A3.1, A4.1, A5.1, A6.1, A7.1, A8.1, A9.1, A10.1, A11.1, A12.1 and A13.1 in the Annexure. All the values of each company of each sector are shown in the Annexure.

Discussion on Step 3 (Validating whether the Influence of Pandemic Is Reflected in the Stock Returns)

The next step was to find the average stock returns of each firm before and after the pandemic using the stock price trends as obtained from the website moneycontrol.com, and to evaluate if there was any clear indication of influence due to the pandemic. The time series of the stock prices thus obtained was divided into two periods. The period from January 2017 (except for a few stocks that got listed a little later than January 2017) to December 2019 was considered the period before the pandemic, while the one from January 2020 to December 2021 was considered the period after the pandemic. The average monthly stock returns of each firm in these two periods were calculated. Similarly, the average monthly stock returns on the NIFTY were also calculated for both periods. This is also shown in Tables A2.2, A3.2, A4.2, A5.2, A6.2, A7.2, A8.2, A9.2, A10.2, A11.2, A12.2 and A13.2 in the Annexure.

Then, the average monthly stock returns on these firms in each sector were computed using a geometric mean. After this, the difference between the average of the stock returns on each sector and the average of the index returns was computed to assess whether a stock is performing better or worse than the market. The difference (delta) between the average return after the pandemic and before the pandemic of each stock and the market returns was also computed. This is also shown in Tables A2.3, A3.3, A4.3, A5.3, A6.3, A7.3, A8.3, A9.3, A10.3, A11.3, A12.3 and A13.3 in the Annexure.

Table A1 captures the difference in the annualised returns on NIFTY 50 before the pandemic and after the pandemic.

Research Findings

This section describes the findings of the three steps followed in the research study as mentioned in the preceding section.

Findings of Step 1 (Classification of Sectors Based on the Assumed Influence of the Pandemic as per the Prevailing Construct)

As discussed in the section *Discussion on Step 1 (Classification of Sectors Based on the Assumed Influence of the Pandemic as per the Prevailing Construct)*, the various sectors in the industry were classified as per the assumed influence of the pandemic on them based on public opinion and prevailing views about how they would be influenced by the pandemic. Table 1 mentions the assumed influence along with the rationale based on the prevailing construct for the different sectors.

Table 1. Assumed Influence of the Pandemic on Different Sectors.

Sector	Assumed Influence	Rationale Based on the Prevailing Construct	Literature Reference
Edutech	Positive	COVID-19 had led to the closing of schools globally and the mode of teaching and learning had shifted to digital mode on an unprecedented scale. This has led to a boost for the Edutech industry.	Li & Lalani, 2020
IT services and consulting	Positive	As more and more of our daily activities go online, more digital transformation and IT-enablement projects are required. The IT industry is expected to grow to more than double its existing size from 2020 to 2025 according to a study. The demand for social media platforms and software was also growing.	Market Data Forecast, 2020
Life and health insurance	Positive	As more people get conscious of coronavirus, they become more cautious of their health and the need for safeguarding the future of their families. Previous epidemics have also witnessed a substantial increase in demand for term and health insurance plans during these times, according to research. As a result of the epidemic, many people now regard insurance to be a vital precaution against unanticipated events. Life insurance is increasingly considered a necessary investment. According to a poll conducted by Benori Knowledge (with over 100 respondents), 70% of uninsured respondents now feel the need to acquire a life insurance policy. Customers value life insurance products, and the uninsured are increasingly considering it as a need.	FE Bureau, 2020; Maitra, 2021

(Table 1 continued)

(Table 1 continued)

Sector	Assumed Influence	Rationale Based on the Prevailing Construct	Literature Reference
Medical equipment, supplies and accessories	Positive	As there are increased patients due to pandemics, there is an increase in demand for medical equipment, supplies and activities to treat patients. During the 2003 SARS pandemic as well, demand for medical equipment spiked in a short period, with low long-term sustainability.	GEPI, 2020
Pharmaceutical	Positive	As the concern for health increases among the consumers, the demand and use of pharmaceutical drugs and vaccines is assumed to rise. There was increased spending on pharmaceutical innovation to get the solution for the COVID-19 problem, and also more consumer spending on healthcare and medical products and services.	Robinson, 2021
Food processing	Neutral	As the demand for food is always there, being a basic necessity makes it neutral to the influence of the pandemic. While the FMCG giants such as ITC benefitted from the growing consumer demand of the food and grocery items and ready-to-cook items during the work-from-home mode, the demand for certain product categories such as cigarettes reduced during the lockdown, making Covid-19 a mixed bag of blessings and bane for the FMCG sector.	Sundar, 2021
Automobiles	Negative	With more people working from home or losing jobs, the requirement for automobiles had decreased. Automobile sales had plummeted globally and the plants were also shut down during the pandemic times. The supply chains were highly disrupted due to domestic as well as international disruptions. The global impact of the pandemic on this industry was estimated to be \$5.7 billion. The epidemic forced the company to halt all manufacturing and activities. According to the Society of Indian Automobile Manufacturers, all vehicle categories had negative growth in FY21.	Meticulous Market Research Pvt. Ltd, 2020

(Table 1 continued)

(Table 1 continued)

Sector	Assumed Influence	Rationale Based on the Prevailing Construct	Literature Reference
Aviation	Negative	With the imposition of barriers on international and domestic traffic, the demand for aviation is expected to fall. The mobility of people, as well as goods, was badly impacted by the pandemic, and the cancellation of international and domestic flights to contain the spread of the virus was commonplace.	Business Wire, 2020
Film production, distribution and entertainment	Negative	Theatres are shut down due to the pandemic, as well as film actors and actresses are locked in their homes. Hence, filmmakers have halted their work. Big releases have been postponed, film, TV and web series production has been suspended, cinema theatres have been unable to show films, and low-wage workers are trying to make ends meet. Because of the coronavirus epidemic, the Indian film business, which is worth ₹183 billion, is experiencing its worst period.	Shekhar, 2020
Hotel, resort and restaurants	Negative	As traveling and eating out is almost nil due to the fear of coronavirus, the use of public places like restaurants, hotels and resorts has been reduced. The lockdown had resulted in the closure of restaurants and hotels and the people had stopped eating outside or staying outside, resulting in a massive blow to the businesses of the hospitality industry.	Bartik et al., 2020
Retailing	Negative	As people stopped going out due to the fear of coronavirus, and the disposable income of the people at large is impacted, a reduction in the retail sector revenues is expected. As the businesses were hit and the jobs were gone, the spending power of the people had declined, and they cut the spending on non-essential items. The shocks were felt in the brick-and-mortar stores as well as in the online stores.	Naeem, 2021; OECD, 2020
Travel services	Negative	As there is no demand for travel amidst the lockdowns, there is no work for travel services. The pandemic-induced lockdowns had led to a drastic reduction in travel and tourism.	Uğur & Akbıyık, 2020

Findings of Step 2 (Validation of the Prevailing-Construct-Based Classification with the Analysis of the Financial Statements for Each Sector)

This section captures the actual impact of the pandemic on the performance of different sectors as measured from the annualised % rate of growth of revenues and EBITDA figures of each sector that were calculated using the financial statements and are shown in Tables A2.1, A3.1, A4.1, A5.1, A6.1, A7.1, A8.1, A9.1, A10.1, A11.1, A12.1 and A13.1 in the Annexure. Table 2 summarises the findings from the tables mentioned above in the Annexure.

Explaining the Rationale behind the Cases of Mismatch between Financial Statements and Prevailing Constructs

Film Production and Distribution. In the year 2020, EROS NOW will have gained 19 million premium paid members and 224 million registered users from over 150 countries across the world to circumvent limitations (BestMediaInfo Bureau, 2021). SAREGAMA India Ltd, a music label, reported a more than twofold rise in consolidated net profit because of the increased digital media consumption during the pandemic's stay-at-home period (PTI, 2021). UFO Moviez India Limited entered the film distribution business to consolidate and position itself as a one-stop pan-India film distributor. UFO Moviez India Ltd. also partnered with another player in the industry to provide companies throughout the country with influencer marketing, branded content and social media solutions (Exchange4media Staff, 2021). The media and entertainment witnessed a favourable impact on financial accounts due to the reasons stated above.

Life Insurance. The business was mainly suspended because of the businesses' inability to move their business processes digitally and, therefore, suffered during the initial phase of Covid. Hence, the financial statements show that life and health insurance were negatively impacted by the pandemic. However, companies have been reminded of the significance of customer-centricity as a result of these shifts in consumer thinking. Players have responded quickly, introducing pandemic-specific insurance, plans tailored to client expectations and needs, digital access to services and improved claim settlement procedures. Because many businesses were able to survive and change their businesses digitally during the first phase of Covid, the drop-off in this industry is not significant.

Automobile. Pre-Covid, the expansion of India's automobile sector was hampered by positive improvements such as GST, the transition to BS6 emission standards (effective 1 April 2020) from BS4, and so on. However, a positive phenomenon happened with the advent of COVID-19. Because social and physical separation will be the norm for some time, a segment of commuters may choose not to use public transportation, resulting in increased demand for personal vehicles, particularly two-wheelers and affordable four-wheelers. Additionally, various government policies, such as the farm bill, which increased tractor manufacturing and production for farmers, prompted many investors to invest, and thus the market grew. Hence, the financial statements show an improvement in performance for this sector since the sector was already struggling before the pandemic and could become more cost-efficient by responding fast to the pandemic.

Table 2. Do Financial Statements Reflect the Assumed Effect of the Pandemic?

Sector	Influence as per Prevailing Construct	Influence as per Financial Statements	Do Financial Statements Reflect the Prevailing Construct?	Instances of Mismatch between Prevailing Construct and Financial Statements
Automobile	Negative	Positive	No	TVS Motors, Maruthi, Eicher Motors, Tata Motors, Hindustan Motors
Aviation	Negative	Negative	Yes	
Health and life insurance	Positive	Negative	No	SBI Life, HDFC Life, ICICI PruLife
Travel	Negative	Negative	Yes	
Food processing (FMCG)	Neutral	Positive	No	Nestle, Britannia
Hotels, resorts and restaurants	Negative	Negative	Yes	MHRIL
Pharmaceutical	Positive	Negative	No	Dr Reddys, Divislab
Retail	Negative	Negative	Yes	
EduTech	Positive	Positive	Yes	NIIT Ltd
Media and entertainment	Negative	Positive	No	Pfocus, Saregama
Medical equipment, supplies and accessories	Positive	Positive	Yes	Opto Circuit
IT services and consultancy	Positive	Positive	Yes	Tech Mahindra

Food Processing. With the COVID-19 spread boosting biscuit sales, Britannia, the producer of Good Day, has prioritised the manufacturing of such goods, putting plans to expand its croissant and salty snack options on hold. This has caused a halt in the company's journey to become a total foods company, and as a result, the market value has dropped slightly, but not dramatically, as the company was able to focus all of its resources on 20% of its products, which generated about 80% revenue during these times and stopped the rest of the product manufacturing (Ahmad, 2020). Domestic sales account for a major percentage of Nestle India's income, accounting for 94.7% of total revenue in 2020. While domestic sales climbed by 8.5% year over year in 2020, the Covid-19 lockdown had a negative influence on performance in the June quarter, with sales only increasing by 2.6%. As a result, domestic sales grew by 10% to 11% year over year in the last three quarters. In comparison to the previous year, the total domestic volume for 2020 grew by 5.7%. E-share commerce's domestic sales have risen to 3.7% in 2020, up from 0.6% in 2016. While COVID had an impact on Nestle India, causing a drop in its stock price, it did not have a significant impact because of its online meal delivery system, which witnessed significant growth in its numbers and orders. Because there was such a high demand for packaged and processed foods during the pandemic, many companies producing them were able to sell large quantities of their products at once, increasing their revenue and market share. Additionally, because these companies had limited product differentiation, their resources were not depleted. Hence, the food processing industry in India was positively impacted by the pandemic as shown by the financial statements.

Findings of Step 3 (Validating whether the Influence of Pandemic Is Reflected in the Stock Returns)

This is according to the delta of the market return (industry annual return—market annual return) which is also shown in the Annexure.

Table 3 captures the findings of step 3 to validate the effect of pandemic on stock market returns.

Table 3. Do Stock Market Returns Reflect the Assumed Effect of the Pandemic?

Sector	% Annual Returns on Sector Stocks—% Annual Returns on Index before the Pandemic	% Annual Returns on Sector Stocks—% Annual Returns on the Index after the Pandemic	Do Stock Market Returns Reflect the Pandemic's Influence?
Edutech	–6.27%	80.95%	Yes, positive influence is reflected
IT services and consulting	12.92%	25.65%	Yes, positive influence is reflected

(Table 3 continued)

(Table 3 continued)

Sector	% Annual Returns on Sector Stocks—% Annual Returns on Index before the Pandemic	% Annual Returns on Sector Stocks—% Annual Returns on the Index after the Pandemic	Do Stock Market Returns Reflect the Pandemic's Influence?
Life and health insurance	7.48%	-11.88%	No, positive influence is not reflected because the firms were not ready to do the business in digital ways and could not make the best out of the opportunity.
Medical equipment, supplies and accessories	-12.88%	111.55%	Yes, positive influence is reflected
Pharmaceutical	-10.57%	36.74%	Yes, positive influence is reflected
Food processing	21.18%	-8.57%	No, the neutral influence is not reflected since the bigger players focussed on select few products only.
Automobiles	-19.23%	7.27%	No, the negative influence is not reflected. This is because the industry was already experiencing troubles before the pandemic.
Aviation	2.86%	-0.69%	Yes, negative influence is reflected
Film production, distribution and entertainment	1.70%	20.56%	No, negative influence is not reflected. It is due to digital initiatives taken by many players.
Hotel, resort and restaurants	-4.57%	-28.14%	Yes, negative influence is reflected
Retailing	25.38%	8.94%	Yes, negative influence is reflected

(Table 3 continued)

(Table 3 continued)

Sector	% Annual Returns on Sector Stocks—% Annual Returns on Index before the Pandemic	% Annual Returns on Sector Stocks—% Annual Returns on the Index after the Pandemic	Do Stock Market Returns Reflect the Pandemic's Influence?
Travel services	−16.58%	−5.89%	No, negative influence is not reflected. The reason for this could not be explained by the study.

Hypothesis Testing

This is according to the delta of the stock return and market return before and after pandemic, which is also shown in the Annexure.

Implications of the Study for Managers and Investors

Retail investors, investment bankers, fund managers and financial consultants need to optimise the returns on their investments. Fundamental research is many times resorted to by them to devise their portfolio strategies. The basic premise behind the fundamental analysis is that the financial statements are the mirror of the firm's performance in the dynamic macroeconomic scenario. However, if the effect of the contemporary happenings is not incorporated in the stock market prices, it leads to market inefficiencies as well as improper allocation of the investor funds to the industry. In the long run, it may lead to erosion of investor confidence and thereby a failure of the capital markets. Thus, the fundamental analysis will not enable making the right investing decisions if the stock market returns do not reflect the contemporary business happenings.

Considering this, the research study has played an important role in establishing that the stock market returns are a reflection of the business realities at an overall level. That serves as a relief for the investing community and reinforces the fact that the stock fundamentals in the context of the macroeconomic scenario do matter and cannot be ignored while making business decisions.

But at the same time, this research study also cautions them to consider the business' prospective performance in its entirety while investing in the equity markets. For example, this study had observed many exceptions and explained the rationale behind them. For example, a few of the media and entertainment industry was able to better contrary to the popular opinion because they adopted the digital chord well on time. Similarly, the automotive industry was an exception to the popular opinion because it was already in the doldrums before the advent of the pandemic and was able to bring in resource efficiencies during the pandemic resulting in EBITDA improvements.

Table 4 reflects the findings of paired *t*-test conducted on stock returns to check the various hypotheses defined in the study.

Table 4. Findings of Paired t-Test Conducted on Stock Returns to Check the Hypothesis.

Sector Hypothesis	P Value	Decision with the Null Hypothesis at 75% Confidence Level
$H_o: (\Delta MR \text{ ITS \& C})_{\text{post-pandemic}} \leq (\Delta MR \text{ ITS \& C})_{\text{pre-pandemic}}$ $H_i: (\Delta MR \text{ ITS \& C})_{\text{post-pandemic}} > (\Delta MR \text{ ITS \& C})_{\text{pre-pandemic}}$	.06727	Rejected (stock markets reflect the assumed influence of pandemic)
$H_o: (\Delta MR \text{ edutech})_{\text{post-pandemic}} \leq (\Delta MR \text{ of edutech})_{\text{pre-pandemic}}$ $H_i: (\Delta MR \text{ edutech})_{\text{post-pandemic}} > (\Delta MR \text{ of edutech})_{\text{pre-pandemic}}$	.03998	Rejected (stock markets reflect the assumed influence of pandemic)
$H_o: (\Delta MR \text{ pharma})_{\text{post-pandemic}} \leq (\Delta MR \text{ pharma})_{\text{pre-pandemic}}$ $H_i: (\Delta MR \text{ pharma})_{\text{post-pandemic}} > (\Delta MR \text{ pharma})_{\text{pre-pandemic}}$	.00347	Rejected (stock markets reflect the assumed influence of pandemic)
$H_o: (\Delta MR \text{ Insurance})_{\text{post-pandemic}} \leq (\Delta MR \text{ Insurance})_{\text{pre-pandemic}}$ $H_i: (\Delta MR \text{ Insurance})_{\text{post-pandemic}} > (\Delta MR \text{ Insurance})_{\text{pre-pandemic}}$	.05744	Rejected (stock markets reflect the assumed influence of pandemic)
$H_o: (\Delta MR \text{ ME, S \& A})_{\text{post-pandemic}} \leq (\Delta MR \text{ Medical})_{\text{pre-pandemic}}$ $H_i: (\Delta MR \text{ ME, S \& A})_{\text{post-pandemic}} > (\Delta MR \text{ Medical})_{\text{pre-pandemic}}$	.00253	Rejected (stock markets reflect the assumed influence of pandemic)
$H_o: (\Delta MR \text{ aviation})_{\text{post-pandemic}} \geq (\Delta MR \text{ aviation})_{\text{pre-pandemic}}$ $H_i: (\Delta MR \text{ aviation})_{\text{post-pandemic}} < (\Delta MR \text{ aviation})_{\text{pre-pandemic}}$	.34109	Accepted (stock returns do not reflect the pandemic's influence)

(Table 4 continued)

(Table 4 continued)

Sector Hypothesis	PValue	Decision with the Null Hypothesis at 75% Confidence Level
$H_o: (\Delta MR \text{ hospitality})_{\text{post-pandemic}} \geq (\Delta MR \text{ hospitality})_{\text{pre pandemic}}$ $H_1: (\Delta MR \text{ hospitality})_{\text{post pandemic}} < (\Delta MR \text{ hospitality})_{\text{pre pandemic}}$	.4857	Rejected (stock markets reflect the assumed influence of pandemic)
$H_o: (\Delta MR \text{ media})_{\text{post pandemic}} \geq (\Delta MR \text{ media})_{\text{pre pandemic}}$ $H_1: (\Delta MR \text{ media})_{\text{post pandemic}} < (\Delta MR \text{ media})_{\text{pre pandemic}}$	.15071	Accepted (stock returns do not reflect the pandemic's influence)
$H_o: (\Delta MR \text{ tourism})_{\text{post pandemic}} \geq (\Delta MR \text{ tourism})_{\text{pre pandemic}}$ $H_1: (\Delta MR \text{ tourism})_{\text{post pandemic}} < (\Delta MR \text{ tourism})_{\text{pre pandemic}}$	.04269	Rejected (stock markets reflect the assumed influence of pandemic)
$H_o: (\Delta MR \text{ auto})_{\text{post pandemic}} \geq (\Delta MR \text{ auto})_{\text{pre pandemic}}$ $H_1: (\Delta MR \text{ auto})_{\text{post pandemic}} < (\Delta MR \text{ auto})_{\text{pre pandemic}}$	.04438	Rejected (stock markets reflect the assumed influence of pandemic)
$H_o: (\Delta MR \text{ FMCG})_{\text{post pandemic}} = (\Delta MR \text{ FMCG})_{\text{pre pandemic}}$ $H_1: (\Delta MR \text{ FMCG})_{\text{post pandemic}} \neq (\Delta MR \text{ FMCG})_{\text{pre pandemic}}$	.24657	Rejected (stock markets reflect the assumed influence of pandemic)

It can also be observed that there is some inconsistency between the findings obtained from hypothesis testing on stock returns and those from weighted average stock returns. This is because the *t*-tests give equal weightage to all the observations irrespective of the size of the firm represented by the stock.

Thus, from the findings, it can be inferred that the stock market returns have captured the influence of the pandemic on the sector for most of the sectors. The

reasons for the exceptions have been explored and proposed, except in the case of the tourism sector, where any suitable reasoning could not be found.

Conclusions

This research study has an important achievement of validating the influence of the pandemic's business effects on the stock market returns on an overall basis. The study is quite robust since the major stocks by market capitalisation, which can be considered as a good proxy of the respective sectors of Indian economy, have been considered.

However, there are a few limitations of the study. First, there may be a few large players that are not listed in the equity market or have no significant market capitalisation, but they are a player of sizeable size when it comes to the value of the firm. Such firms could have been ignored in this study. Second, while determining the overall stock returns for any sector, the weighted average of the individual stock returns has been computed with weights being the proportion of the market capitalisation of those stocks. But the market capitalisation of the listed stocks may not always be a correct proxy of the relative size of a business. Third, while evaluating the financial performance of the businesses pre- and post-pandemic, the standalone financial statements were not available for a few businesses that are diversified conglomerates. In such cases, it has been assumed that the consolidated financial statements reflect the performance of the standalone business, which may not always be true.

This study can be extended in many directions in the future. First, the parallels can be drawn between the findings of this study and similar studies on the earlier financial busts such as the dot-com crash and the subprime crisis. In addition, an analytical comparison can be done on whether the ability of a financial crisis to influence the stock market returns is also related to the nature of the crisis.

Second, this study was limited to only NIFTY 50 stocks, while it can be carried out on a larger sample of stocks from each industry so that the sampling errors can be eliminated, as the standard error of the sampling distribution will fall with a larger sample.

Third, the different sectors may exhibit varying levels of business cyclicality. Irrespective of whether the cyclicality is positive or negative, it may be of different extent for not only different sectors but also for the different firms within each sector. If a study can be done to gauge the pandemic's influence on stock market returns in the context of cyclicality, it can help draw more insights.

Fourth, if the resilience of the sectors or the businesses to the financial crisis can also be measured and brought into consideration, some important insights can be drawn on whether the ability of a macroeconomic situation to influence the stock returns is dependent on the resilience of that business or not.

Thus, this research study has been quite conclusive, but it also has many limitations and possible directions of extension in the future, which can be pursued to enhance the existing body of knowledge on the behaviour of equity market returns.

Annexure

Table A1. Summary of Stock Returns on NIFTY.

	NIFTY before Pandemic	NIFTY after Pandemic
Average monthly return	1.01%	1.57%
Annualised returns	12.81%	20.56%
Delta of the stock	7.75%	

Table A2.1. Financial Statement Analysis of Selected Stocks in the Indian Automotive Industry.

Financial Metric	Before Pandemic	After Pandemic	Direction of Change	Overall Influence
% growth total turnover	31.82%	23.01%	Negative	Positive
% growth EBITDA	88.13%	2002.29%	Positive	
% growth asset turnover ratio	−1.80%	92.03%	Positive	
% growth net profit margin	42.78%	51.30%	Positive	
% growth return on assets	82.12%	125.42%	Positive	

Table A2.2. ΔMR for Indian Automotive Stock Returns and Market Returns.

Stock Name	Average Monthly Return before Pandemic	Average Monthly Return after Pandemic	NIFTY Return before Pandemic	NIFTY Return after Pandemic	Stock Returns—Index Return before Pandemic	Stock Returns—Index Return after Pandemic
EICHER MOTORS	0.20%	1.67%	1.01%	1.57%	−0.80%	0.10%
HIND MOTORS	−1.50%	2.49%	1.01%	1.57%	−2.51%	0.92%
MARUTI SUZUKI	0.20%	1.67%	1.01%	1.57%	−0.80%	0.10%
TATA MOTORS	−2.93%	3.31%	1.01%	1.57%	−3.94%	1.74%
TVS-MOTOR	0.59%	1.52%	1.01%	1.57%	−0.42%	−0.05%

Table A2.3. Premium of Indian Automotive Stock Returns over the Index Returns.

	Before Pandemic	After Pandemic
Average monthly return	−0.55%	2.07%
Annualised returns	−6.42%	27.82%
Delta of the stock (industry—index)	−19.23%	7.27%

Table A3.1. Financial Statement Analysis of Selected Stocks in the Indian Aviation Industry.

Financial Metric	Before Pandemic	After Pandemic	Direction of Change	Overall Influence
% growth total turnover	17.98%	−45.31%	Negative	Negative
% growth EBITDA	−27.97%	−68.02%	Negative	
% growth asset turnover ratio	3.86%	−42.96%	Negative	
% growth net profit margin	−58.32%	−24.86	Negative	
% growth return on assets	−55.51%	−8.855	Negative	

Table A3.2. ΔMR for Indian Aviation Stock Returns and Market Returns.

Stock Name	Average Monthly Return before Pandemic	Average Monthly Return after Pandemic	NIFTY Return before Pandemic	NIFTY Return after Pandemic	Stock Returns—Index Return before Pandemic	Stock Returns—Index Return after Pandemic
GLOBAL-VECTRA	−1.99%	−0.55%	1.01%	1.57%	−3.00%	−2.12%
INDIGO	1.22%	1.52%	1.01%	1.57%	0.21%	−0.05%

Table A3.3. Premium of Indian Aviation Stock Returns over the Index Returns.

	Before Pandemic	After Pandemic
Average monthly return	1.22%	1.52%
Annualised returns	15.67%	19.87%
Delta of the stock (industry—market)	2.86%	−0.69%

Table A4.1. Financial Statement Analysis of Selected Stocks in the Indian Media Industry.

Financial Metric	Before Pandemic	After Pandemic	Direction of Change	Overall Influence
% growth total turnover	15.96%	−49.56%	Negative	Negative
% growth EBITDA	31.53%	−31.33%	Negative	
% growth asset turnover ratio	2.46%	−67.98%	Negative	
% growth net profit margin	7.78%	−836.43%	Negative	
% growth return on assets	11.01%	−836.43%	Negative	

Table A4.2. Δ MR for Indian Media and Entertainment Stock Returns and Market Returns.

Stock Name	Average Monthly Return before Pandemic	Average Monthly Return after Pandemic	NIFTY Return before Pandemic	NIFTY Return after Pandemic	Stock Returns—Index Return before Pandemic	Stock Returns—Index Return after Pandemic
EROSME-DIA	-6.79%	4.01%	1.01%	1.57%	-7.80%	2.44%
INOXLEISURE	1.67%	-1.40%	1.01%	1.57%	0.66%	-2.97%
PFOCUS	-1.87%	1.34%	1.01%	1.57%	-2.88%	-0.23%
PVR	1.26%	-1.85%	1.01%	1.57%	0.25%	-3.42%
SARE-GAMA	1.95%	12.55%	1.01%	1.57%	0.95%	10.98%
UFO	-3.16%	-0.74%	1.01%	1.57%	-4.17%	-2.31%

Table A4.3. Premium of Indian Media and Entertainment Stock Returns over the Index Returns.

	Before Pandemic	After Pandemic
Average monthly return	1.14%	2.91%
Annualised returns	14.51%	41.11%
Delta of the stock (industry—market)	1.70%	20.56%

Table A5.1. Financial Statement Analysis of Selected Stocks in the Indian Insurance Industry.

Financial Metric	Before Pandemic	After Pandemic	Influence	Overall Influence
% growth total turnover	14.60%	8.46%	Negative	Negative
% growth EBITDA	6.07%	6.20%	Neutral	
% growth asset turnover ratio	-2.21%	-20.29%	Negative	
% growth return on assets	-9.07%	-27.43%	Negative	
% growth net profit margin	-7.43%	-8.45%	Negative	

Table A5.2. Δ MR for Indian Insurance Stock Returns and Market Returns.

Stock Name	Average Monthly Return before Pandemic	Average Monthly Return after Pandemic	NIFTY Return before Pandemic	NIFTY Return after Pandemic	Stock Returns—Index Return before Pandemic	Stock Returns—Index Return after Pandemic
HDFC LIFE	2.07%	0.76%	0.60%	1.57%	1.47%	-0.81%

(Table A5.2. continued)

(Table A5.2. continued)

Stock Name	Average Monthly Return before Pandemic	Average Monthly Return after Pandemic	NIFTY Return before Pandemic	NIFTY Return after Pandemic	Stock Returns—Index Return before Pandemic	Stock Returns—Index Return after Pandemic
ICICIPRU-LIFE	1.03%	1.17%	1.01%	1.57%	0.02%	−0.40%
SBILIFE	1.39%	0.13%	0.70%	1.57%	0.69%	−1.44%

Table A5.3. Premium of Indian Insurance Stock Returns over the Index Returns.

	Before Pandemic	After Pandemic
Average monthly return	1.55%	0.70%
Annualised returns	20.29%	8.68%
Delta of the stock (industry—market)	7.48%	−11.88%

Table A6.1. Financial Statement Analysis of Selected Stocks in the Indian Hospitality Industry.

Financial Metric	Before Pandemic	After Pandemic	Influence	Overall Influence
% growth total turnover	6.55%	−52.09%	Negative	Negative
% growth EBITDA	3.34%	−98.32%	Negative	
% growth debt to equity	−11.75%	27.52%	Negative	
% growth asset turnover ratio	1.29%	−50.65%	Negative	
% growth return on assets	4.25%	−144.38%	Negative	
% growth net profit margin	7.92%	−348.70%	Negative	

Table A6.2. ΔMR for Indian Hospitality Stock Returns and Market Returns.

Stock Name	Average Monthly Return before Pandemic	Average Monthly Return after Pandemic	NIFTY Return before Pandemic	NIFTY Return after Pandemic	Stock Returns—Index Return before Pandemic	Stock Returns—Index Return after Pandemic
COFFEEDAY	−4.46%	2.19%	1.01%	1.57%	−5.47%	0.62%
EIH LIMITED	1.12%	−0.96%	1.01%	1.57%	0.11%	−2.53%
INDIAN HOTEL COMPANY LIMITED	1.06%	0.25%	1.01%	1.57%	0.05%	−1.32%
MHRIL	−0.48%	0.96%	1.01%	1.57%	−1.49%	−0.61%
TAJGVK	0.63%	−1.45%	1.01%	1.57%	−0.38%	−3.03%

Table A6.3. Premium of Indian Hospitality Stock Returns over the Index Returns.

	Before Pandemic	After Pandemic
Average monthly return	0.66%	−0.65%
Annualised returns	8.24%	−7.58%
Delta of the stock (industry—market)	−4.57%	−28.14%

Table A7.1. Financial Statement Analysis of Selected Stocks in the Indian Retail Industry.

Financial Metric	Before Pandemic	After Pandemic	Direction of Change	Overall Influence
% growth total turnover	14.43%	−36.85%	Negative	Negative
% growth EBITDA	22.46%	−50.73%	Negative	
% growth asset turnover ratio	8.29%	−46.86%	Negative	
% growth inventory turnover ratio	−7.50%	−15.56%	Negative	
% growth net profit margin	48.92%	−219.15%	Negative	
% growth return on assets	75.02%	−138.48%	Negative	

Table A7.2. ΔMR for Indian Retail Stock Returns and Market Returns.

Stock Name	Average Monthly Return before Pandemic	Average Monthly Return after Pandemic	NIFTY Return before Pandemic	NIFTY Return after Pandemic	Stock Returns—Index Return before Pandemic	Stock Returns—Index Return after Pandemic
ABFRL	1.25%	−0.50%	1.01%	1.57%	0.24%	−2.07%
DMART	2.90%	2.62%	0.84%	1.57%	2.06%	1.05%
FRETAIL	2.04%	−8.77%	1.01%	1.57%	1.03%	−10.34%
TRENT	2.33%	2.43%	1.01%	1.57%	1.32%	0.86%
SHOPER-STOP	0.74%	−2.81%	1.01%	1.57%	−0.26%	−4.38%
VMART	3.25%	2.37%	1.01%	1.57%	2.24%	0.80%

Table A7.3. Premium of Indian Retail Stock Returns over the Index Returns.

	Before Pandemic	After Pandemic
Average monthly return	2.73%	2.18%
Annualised returns	38.19%	29.50%
Delta of the stock (industry—market)	25.38%	8.94%

Table A8.1. Financial Statement Analysis of Selected Stocks in the Indian Travel and Tourism Industry.

Financial Metric	Before Pandemic	After Pandemic	Direction of Change	Overall Influence
% growth total turnover	44.60%	-49.23%	Negative	Negative
% growth EBITDA	31.64%	-319.84%	Negative	
% growth return on assets	492.02%	-399.82%	Negative	
% growth asset turnover ratio	24.15%	-47.32%	Negative	
% growth net profit margin	563.68%	-841.02%	Negative	

Table A8.2. Δ MR for Indian Travel and Tourism Stock Returns and Market Returns.

Stock Name	Average Monthly Return before Pandemic	Average Monthly Return after Pandemic	NIFTY Return before Pandemic	NIFTY Return after Pandemic	Stock Returns—Index Return before Pandemic	Stock Returns—Index Return after Pandemic
BLS	-2.84%	4.00%	3.59%	1.57%	-6.42%	2.43%
COX & KINGS	-12.72%	4.08%	1.01%	1.57%	-13.73%	2.51%
CROWN-TOURS	-2.00%	1.49%	1.15%	1.48%	-3.15%	0.01%
ITHL	-2.42%	0.97%	1.15%	1.48%	-3.57%	-0.51%
THOM-ASCOOK	-0.18%	1.01%	1.01%	1.57%	-1.19%	-0.56%

Table A8.3. Premium of Indian Travel and Tourism Stock Returns over the Index Returns.

	Before Pandemic	After Pandemic
Average monthly return	-0.32%	1.15%
Annualised returns	-3.77%	14.66%
Delta of the stock (industry-market)	-16.58%	-5.89%

Table A9.1. Financial Statement Analysis of Selected Stocks in the Indian FMCG Industry.

Financial Metric	Before Pandemic	After Pandemic	Direction of Change	Overall Influence
% growth total turnover	12.27%	3.13%	Negative	Negative
% growth EBITDA	21.52%	85.20%	Positive	
% growth PBDIT margin	8.33%	83.15%	Positive	
% growth asset turnover ratio	-3.89%	2.19%	Positive	
% growth net profit margin	9.71%	30.31%	Positive	

Table A9.2. Δ MR for Indian FMCG Stock Returns and Market Returns.

Stock Name	Average Monthly Return before Pandemic	Average Monthly Return after Pandemic	NIFTY Return before Pandemic	NIFTY Return after Pandemic	Stock Returns—Index Return before Pandemic	Stock Returns—Index Return after Pandemic
ADF-FOODS	2.11%	6.46%	1.01%	1.57%	1.10%	4.89%
APEX	-0.66%	0.79%	1.01%	1.57%	-1.67%	-0.78%
BRITANNIA	1.97%	0.83%	1.01%	1.57%	0.96%	-0.74%
DFM-FOODS	-1.00%	1.56%	1.01%	1.57%	-2.01%	-0.01%
HERITG-FOOD	-0.83%	1.49%	1.01%	1.57%	-1.84%	-0.08%
NESTLE-IND	2.82%	0.93%	1.01%	1.57%	1.81%	-0.64%

Table A9.3. Premium of Indian FMCG Stock Returns over the Index Returns.

	Before Pandemic	After Pandemic
Average monthly return%	2.47%	0.95%
Annualised returns	33.99%	11.99%
Delta of the stock (industry—market)	21.18%	-8.57%

Table A10.1. Financial Statement Analysis of Selected Stocks in the Indian Edutech Industry.

Financial Metric	Before Pandemic	After Pandemic	Direction of Change	Overall Influence
% growth total turnover	-11.57%	-19.13%	Negative	Positive
% growth EBITDA	-28.51%	30.04%	Positive	
% growth PBDIT margin	-41.72%	58.03%	Positive	
% growth net profit margin	-214.91%	-19.09%	Negative	

Table A10.2. Δ MR for Indian Edutech Stock Returns and Market Returns.

Stock Name	Average Monthly Return before Pandemic	Average Monthly Return after Pandemic	NIFTY Return before Pandemic	NIFTY Return after Pandemic	Stock Returns—Index Return before Pandemic	Stock Returns—Index Return after Pandemic
APTECHT	-0.22%	2.64%	1.01%	1.57%	-1.23%	1.07%
EDUCOMP	-6.59%	6.64%	1.01%	1.57%	-7.60%	5.07%
JETKINGQ	-1.52%	2.42%	1.15%	1.48%	-2.66%	0.94%

Stock Name	Average Monthly Return before Pandemic	Average Monthly Return after Pandemic	NIFTY Return before Pandemic	NIFTY Return after Pandemic	Stock Returns—Index Return before Pandemic	Stock Returns—Index Return after Pandemic
NIITLTD	0.81%	6.90%	1.01%	1.57%	−0.20%	5.33%

Table A10.3. Premium of Indian Edutech Stock Returns over the Index Returns.

	Before Pandemic	After Pandemic
Average monthly return	0.53%	6.01%
Annualised returns	6.54%	101.51%
Delta of the stock (industry—market)	−6.27%	80.95%

Table A11.1. Financial Statement Analysis of Selected Stocks in the Indian IT Services Industry.

Financial Metric	Before Pandemic	After Pandemic	Direction of Change	Overall Influence
% growth total turnover	11.62%	3.31%	Negative	Positive
% growth EBITDA	11.09%	18.02%	Positive	
% growth net profit margin	0.00%	10.95%	Positive	
% growth return on assets	4.88%	4.43%	Neutral	

Table A11.2. ΔMR for Indian IT Services Stock Returns and Market Returns.

Stock Name	Average Monthly Return before Pandemic	Average Monthly Return after Pandemic	NIFTY Return before Pandemic	NIFTY Return after Pandemic	Stock Returns—Index Return before Pandemic	Stock Returns—Index Return after Pandemic
HCLTECH	1.07%	1.71%	1.01%	1.57%	0.06%	0.14%
INFY	2.37%	4.18%	1.01%	1.57%	1.36%	2.60%
MINDTREE	1.92%	6.13%	1.01%	1.57%	0.91%	4.56%
TECHM	1.70%	1.75%	1.01%	1.57%	0.69%	0.18%
TCS	2.10%	2.70%	1.01%	1.57%	1.09%	1.13%
WIPRO	1.06%	4.64%	1.01%	1.57%	0.05%	3.07%

Table A11.3. Premium of Indian IT Services Industry Stock Returns over the Index Returns.

	Before Pandemic	After Pandemic
Average monthly return	1.93%	3.22%
Annualised returns	25.73%	46.21%
Delta of the stock (industry—market)	12.92%	25.65%

Table A12.1. Financial Statement Analysis of Selected Stocks in the Indian Medical Equipment Industry.

Financial Metric	Before Pandemic	After Pandemic	Direction of Change	Overall Influence
% growth total turnover	−14.59%	8.57%	Positive	Positive
% growth EBITDA	6.19%	75.66%	Positive	
% growth inventory turnover ratio	33.63%	−11.52%	Negative	
% growth asset turnover ratio	−20.88%	5.93%	Positive	

Table A12.2. ΔMR for Indian Medical Equipment Stock Returns and Market Returns.

Stock Name	Average Monthly Return before Pandemic	Average Monthly Return after Pandemic	NIFTY Return before Pandemic	NIFTY Return after Pandemic	Stock Returns—Index Return before Pandemic	Stock Returns—Index Return after Pandemic
GKB	−2.91%	4.37%	1.01%	1.57%	−3.92%	2.80%
IDEAL	−0.33%	3.44%	1.18%	1.48%	−1.51%	1.96%
TEXBUILD						
OPTOCIR-CUI	−3.64%	2.82%	1.01%	1.57%	−4.65%	1.25%
POLYMED	0.07%	7.36%	1.01%	1.57%	−0.94%	5.79%

Table A12.3. Premium of Indian Medical Supplies Industry Stock Returns over the Index Returns.

	Before Pandemic	After Pandemic
Average monthly return	−0.01%	7.27%
Annualised returns	−0.07%	132.11%
Delta of the stock (industry—market)	−12.88%	111.55%

Table A13.1. Financial Statement Analysis of Selected Stocks in the Indian Pharmaceutical Industry.

Financial Metric	Before Pandemic	After Pandemic	Direction of Change	Overall Influence
% growth total turnover	14.56%	7.81%	Negative	Negative
% growth EBITDA	29.80%	8.24%	Negative	
% growth return on net worth/equity	11.99%	−8.94%	Negative	
% growth asset turnover ratio	5.89%	2.67%	Negative	
% growth net profit margin	8.37%	−10.15%	Negative	

Table A13.2. Δ MR for Indian Pharmaceutical Stock Returns and Market Returns.

Stock Name	Average Monthly Return before Pandemic	Average Monthly Return after Pandemic	NIFTY Return before Pandemic	NIFTY Return after Pandemic	Stock Returns—Index Return before Pandemic	Stock Returns—Index Return after Pandemic
CADILAHC	−0.75%	5.06%	1.01%	1.57%	−1.76%	3.49%
CIPLA	−0.49%	4.39%	1.01%	1.57%	−1.50%	2.82%
DIVISLAB	2.90%	4.86%	1.01%	1.57%	1.89%	3.29%
DRREDDY	−0.04%	3.31%	1.01%	1.57%	−1.05%	1.74%
SUNPHAR-MA	−1.03%	2.62%	1.01%	1.57%	−2.04%	1.05%

Table A13.3. Premium of Indian Pharmaceutical Stock Returns over the Index Returns.

	Before Pandemic	After Pandemic
Average monthly return	0.18%	3.85%
Annualised returns	2.24%	57.30%
Delta of the stock (industry—market)	−10.57%	36.74%

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