



## Analytical Study on Impact of Pandemic on Financial Performance of Indian Manufacturing Companies

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### Abstract

This study aims to Analyze the impact of the Covid-19 pandemic on the financial performance of Indian manufacturing companies. The pandemic has affected every sector, and the manufacturing sector has also faced significant challenges due to the lockdowns imposed across the globe. The study is unique because it compares the financial performance of Indian companies before and after the pandemic, using secondary data and statistical tools. To conduct the analysis, this study gathers financial data of Indian manufacturing companies before and after the pandemic. This study uses various financial indicators such as revenue, net income, profitability ratios, liquidity ratios, and solvency ratios to measure the impact of the pandemic on financial performance. Statistical tools such as t-tests, ANOVA, regression analysis, and time-series analysis can be used to Analyze the data and test for significant differences between the pre- and post-pandemic periods. It also conducts a comparative analysis of the financial performance of companies operating in different sectors within the manufacturing industry. The findings of the study can provide valuable insights into how the pandemic has affected the financial performance of Indian manufacturing companies and help them develop strategies to mitigate the impact of future crises. Additionally, the study can contribute to the existing body of knowledge on the impact of the pandemic on the manufacturing sector globally.

**Keywords:** Covid-19, Financial Performance, Lockdown

**JEL:** G, G3, G32

### Introduction

In all spheres of life, the covid-19 pandemic that has influence the entire world. The pandemic has spread rapidly around the world, including India. The government has taken the various measures to stop this pandemic like social distancing, healthy lifestyle promotion, work from home policies, mask socialisation and many more. The Covid-19 pandemic undoubtedly had a detrimental effect on the Indian economy, particularly following the implementation of widespread social restrictions or lockdown measures, which led several businesses to terminate work relationships for a number of employees who were fired through social assistance. One of the industries that has contributed significantly to the support of the expansion of the national economy is the manufacturing sector. The Covid-19 pandemic, however, had a considerable impact on India's manufacturing industry's

operations. Despite being impacted by the covid-19, the company tries to recover and carry on with the warning that they must implement health protocols in order to protect their companies because the company financial performance decide the future of that company, its financial performance indicates that the company is going in the direction of the progress or not. A summary of the company's financial state throughout a specific time period, including the features of raising funds and allocating it, can be found in the financial performance of the company. Future reports of financial situation of the companies frequently made on the basis of the prior financial performance (Alsamhi et al., 2022)

<sup>2</sup>The manufacturing industries of India has recently gone through the various phases, approx. 18-19% of the gross domestic production is contributed by this industry which also provides employment to approx. 22-25% of the country's workforce. When the

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pandemic's initial wave hit, the government-imposed lockdown due to which limitations on the movement of products and the people significantly reduced employee productivity and shattered supply chains, suspending almost all production activity. The pandemic resulted in small-scale operations and eventually had a significant impact on production levels, which had a number of impacts on the manufacturing industry. Over time, this had a detrimental effect on revenue and turnover. Both the full and partial lockdowns had an effect on the manufacturing sector from the supply and demand sides. The production is affected due to pandemic there is restriction in the movement of goods, services and the persons. The Fall in economic activity and the general slowdown in output had an impact on employment. These supply implications were further disrupted as a result of issues on the demand side, such as decreased discretionary income, decreased savings, and increased uncertainty. In the last month of the 2020, a second wave was observed, the anticipated recovery of the nation was further complicated by the fact that the second wave of cases grew far more quickly than the first wave of pandemic. In order to reduce the number of deaths in the second wave, most of the states implemented lockdown and various types of the restrictions which increased the mortality rate among

people. The nation's healthcare system completely collapsed as people scrambled to find beds, oxygen tanks, and supplies to survive the second wave. The manufacturing purchasing managers' index (PMI) for India fell to 55.4 in march 2021 from 57.5 in February 2021. After falling to a seven-month low in march at 55.4 but in the April, it shows a minor rebound to 55.5. The increase of covid-19 cases could further reduce demand at a time when business finances are already vulnerable to the challenges of rising global costs<sup>9</sup>. PMI is basically the industrial and service sectors' current economic trends are measured. Its main objective is to inform business decision-makers, analysts and investors about the existing and upcoming business environment. A figure over 50 indicates more commercial activity. Any figure under 50 indicates less business activity. The PMI is considered a leading indicator of economic activity because changes in purchasing managers' behaviours are usually reflected in changes in other economic indicators such as GDP, employment, and inflation. PMI is closely watched by investors, economists, and policymakers as it provides valuable insights into the health of the economy and helps them make informed decisions. It is also used by businesses to adjust their production, inventory, and staffing levels to reflect changes in the business environment.



(Source: <https://blog.investyadnya.in/what-is-purchasing-managers-index-pmi/>)

### **Covid-19 Initial Impact on Trade:**

The coronavirus pandemic reduced domestic demand for crude oil, gold, and other industrial items, reflecting a slowing economy, and India produced a trade surplus of \$789 million approx. in June, its first in more than 18 years. Since march, India's exports and imports have been declining, and over the coming quarters, the prognosis for trade is anticipated to be pressured by worsening India-China relationship, declining global demand, and supply chain disruption. According to figures issued by the Ministry of Commerce and Industry, merchandise imports decreased by 47.59% to \$21.11 billion in June from a year earlier, while exports decreased by 12.41% to \$21.91 billion. This resulted in a small trade surplus. Due to a drop in both local demand and global commodity prices, June saw a 55.29 percent year-over-year decline in crude oil imports to \$4.93 billion, while a more than 77 percent decline in gold imports to \$608.7 million. The data showed that during the April to June quarter, total merchandise imports decreased by more than 50% to \$60.44 billion while exports decreased by 36.71% to \$51.32 billion from the same time last year.

As the economy improves, we are understanding the phase that our linkages with China are stronger than ever. China is the primary source of manufacturing industry. As covid-19 affected the various territories of China (Guangdong, Zhejiang and Jiangsu) where there are many manufacturing businesses concentrated. Industries which were in these locations have delayed or stopped operations due to shortage manpower, stock, and replacement parts. As a result, production of automobiles, mobile phones, and similar types of goods has drastically fallen (Lakshmi, 2021).

The trade gap between India and China is expanding. First two months of the current fiscal, imports from China have experienced a significant increase in the product like electrical, machinery, automobiles, chemical and petroleum products. China is actually India's main trade partner for imports. In the fiscal year 2022, China contributed \$94.2 billion, or 15.5%, of India's total merchandise imports of \$609 billion in fiscal year 2022<sup>8</sup>.

### **Review of Literature:**

In the past, studies on the connection between Indian manufacturing industry and financial success have produced conflicting findings. Several research undertaken in the past have explored their link, but some of the studies have been explained as follows: (Sahoo & Ashwani, 2020) The estimation of the Indian economy had to face the negative growth; every sector affected badly in the pandemic period. The manufacturing sector had an impact of about 5.5-20% from the very best case to the worst-case scenario. In the manufacturing sector there were the many industries which affected badly like metals and chemical products, motor vehicles, machinery and equipment, textiles etc. <sup>3</sup>To survive in these difficult times, small industries require assistance in the form of interest-free working capital to pay their wages and fixed costs, but it's time to increase the demand to encourage credit usage

The steel sector has performed well but at the end of the year, construction activities decline caused by the covid-19. Steel pipe production in India ranks third globally and accounts for 8-10% of global steel consumption. The steel sector provides roughly 1.5% of the country's GDP and directly and indirectly employs nearly 25 lakh people. The exports for the current fiscal are expected to surpass that of fiscal year 2021 as it has already crossed 70% of that year ("Despite Hit by Covid, India's Steel Production Increases by 25.6%," 2021) steel growth typically has a direct correlation to GDP. <sup>5</sup>The manufacturing sector has the worst impact from the covid-19 because they end up their production at a very short notice period. Not only their cash flow issues and supply chain disruptions that the industries must deal with, but also their inventories' value which were in production and in the warehouses has also decrease. The machinery has also been sitting inactive for a considerable amount of time.

(El Chaarani et al., 2021) During the COVID-19 pandemic, the financial performance of small and medium enterprises was crucial. To improve their financial success, SMEs considered various strategic competitive innovation types such as marketing, organizational, product, and process innovation. This study found that process and marketing innovation had a positive impact on the financial performance of SMEs during the pandemic.

(M. et al., 2020) Indian venture have already had a huge impact from covid-19, and as various companies lay off the staff, employment is at serious risk. Additionally, the covid-19 crisis had just resulted in an unanticipated decline in the financial activities. Around 71% of the companies analysed anticipate decreased sales for the fiscal year 2020-2021. Because of this pandemic the import demand of Indian manufacturing companies is directly impacted. (Soni Preeti K. 2017) A small number of the chosen organisations have carried out their CSR initiatives distant from their headquarters. Second, despite making provisions, many businesses do not spend the whole amount (2% of the average PBT for the previous three years). Sadly, there is no mechanism in the Companies Act to carry over the unused funds to the following year. As a result, it has been noticed that many businesses simply state the reason for not spending the money and then use it to fund their industrial operations. As a result, it defeats the purpose of legal requirements for CSR activity. CSR has become crucial for public

limited firms under the 2013 Companies Act. Among the crucial components of CSR are the community, employees, consumers, and environment. The actual CSR performance in the research area, however, is different from how businesses perceive these parameters. Contrary to what the majority of the existing research suggested, the results of the current study do not significantly support the claim that CSR performance enhances financial performance.

### Objectives of the Study:

The whole world is under the control of coronavirus. The impact of this covid is more severe effects, the businesses must address this issue by constructing sound methods to live in this difficult situation time. The following are the objectives of this study:

1. To highlight the impact of pandemic on financial performance of Indian manufacturing companies.
2. To examine the pre and post impact of pandemic on Indian manufacturing companies.

### Variables:

<b>Net Profit Ratio</b>	$\frac{\text{Net Profit}}{\text{Net Revenue}} \times 100$
	Profitability refers to the extent to which a company's earnings exceed its costs. A higher profitability indicates a higher profit margin, which is the amount of money that the company makes in proportion to the revenue generated.
<b>Return on Capital Employed</b>	$\frac{\text{EBIT (Earning before interest and tax)}}{\text{Total Assets} - \text{Current Liabilities}}$
	Return on capital employed assesses the efficiency of a business in utilizing its capital to generate profits.
<b>Current Ratio</b>	$\frac{\text{Current Asset}}{\text{Current Liability}}$
	The current ratio, commonly referred to as the working capital ratio, measures the capability of a company to settle its short-term debts that are expected to be due within a year.
<b>Debt Equity Ratio</b>	$\frac{\text{Total Debt}}{\text{Shareholder's Equity}}$
	The leverage ratio is a financial metric that quantifies the proportion of a company's total debt and financial commitments compared to its total shareholder equity. By analyzing this ratio, it is possible to understand the composition of a company's capital structure in terms of whether it is predominantly funded by debt or equity financing.

<b>Inventory turnover Ratio</b>	$\frac{\text{Cost of Sales}}{\text{Total Inventory}}$
	To determine how frequently inventory is sold over the course of a period.
<b>Debtor turnover Ratio</b>	$\frac{\text{Net Credit Sales}}{\text{Average Accounts Receivable}}$
	This ratio measures a company's ability to generate income by utilizing its resources effectively. It is an efficiency ratio that evaluates a company's operational efficiency and how efficiently it employs its resources to generate revenue.

(Source: <https://seajbel.com/wp-content/uploads/2021/08/SEAJBEL24.ISU-5-832.pdf>)

**Research Methodology:** The aim of this study is to investigate the effects of the COVID-19 pandemic on the financial performance of Indian manufacturing companies between 2019 and 2022. To achieve this, the study employs a comparative analysis and descriptive financial ratio analysis to evaluate the financial performance of these companies over the four-year period.

**Sample Size:** The population size being taken for 15 manufacturing companies which are mentioned below:

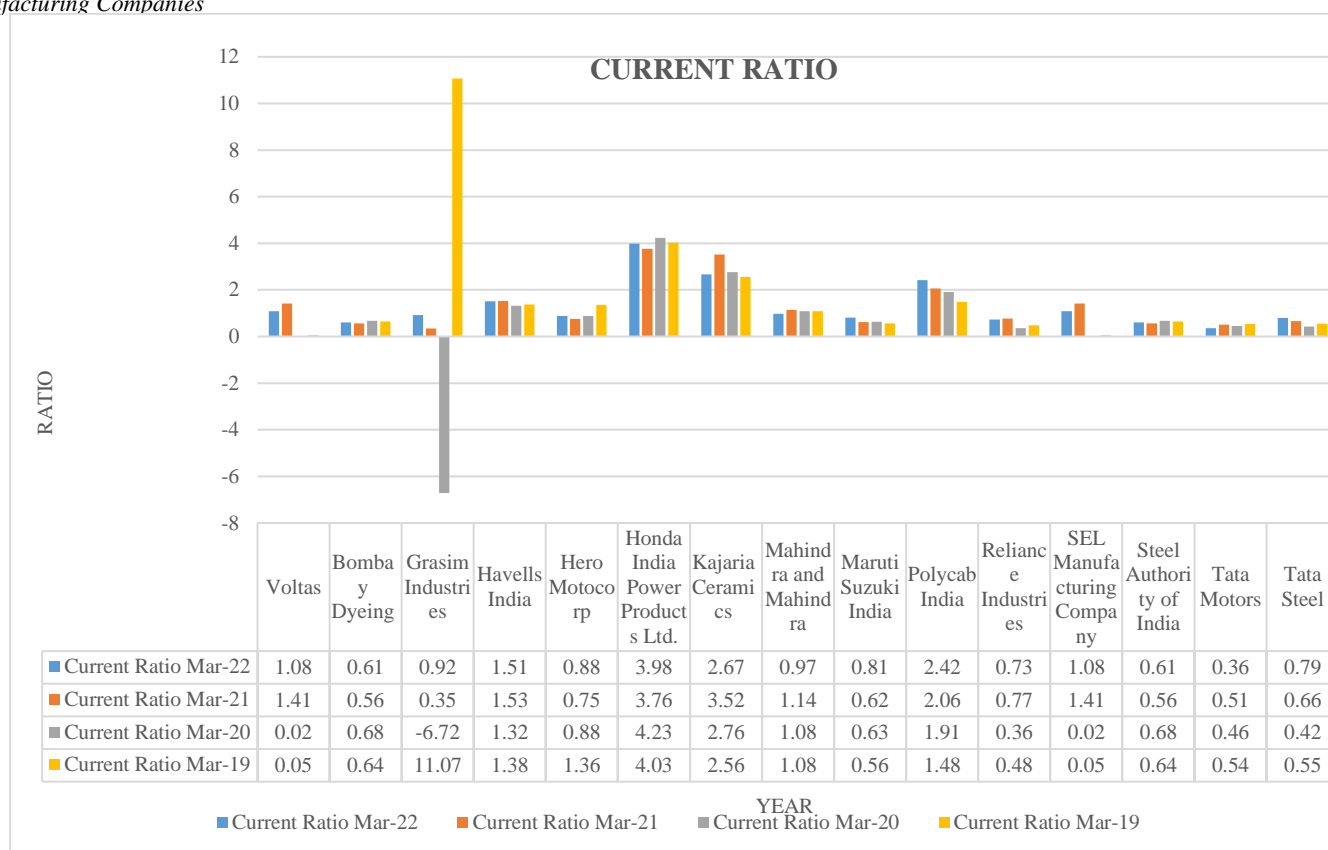
Voltas
Bombay Dyeing
Grasim Industries
Havells India
Hero MotoCorp
Honda India Power Products Ltd.
Kajaria Ceramics
Mahindra and Mahindra

Maruti Suzuki India
Polycab India
Reliance Industries
SEL Manufacturing Company
Steel Authority of India
Tata Motors
Tata Steel

**Variables:** To assess the financial performance of Indian manufacturing companies during the COVID-19 pandemic, this study utilizes several financial ratios, such as net profit margin, return on capital employed, current ratio, debt-equity ratio, and inventory turnover ratio. These ratios provide a comprehensive understanding of the companies' profitability, efficiency, liquidity, leverage, and inventory management during the pandemic.

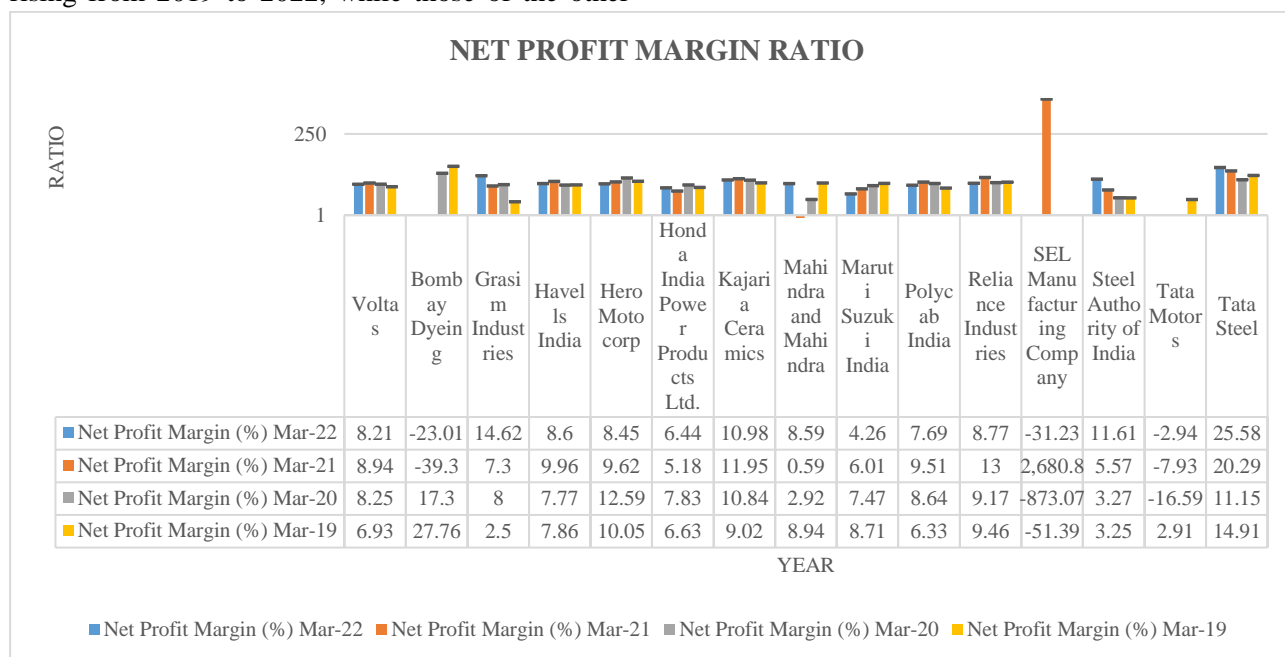
**Tools: Comparative Analysis, Paired Sample T-test.**

**Data Analysis:**



A company's ability to pay off short-term debts within a year is determined by its current ratio. The current ratio of Voltas, Havells India, Polycab India, Reliance Industries, SEL Manufacturing companies, and Tata Steel's current ratios in the above chart were rising from 2019 to 2022, while those of the other

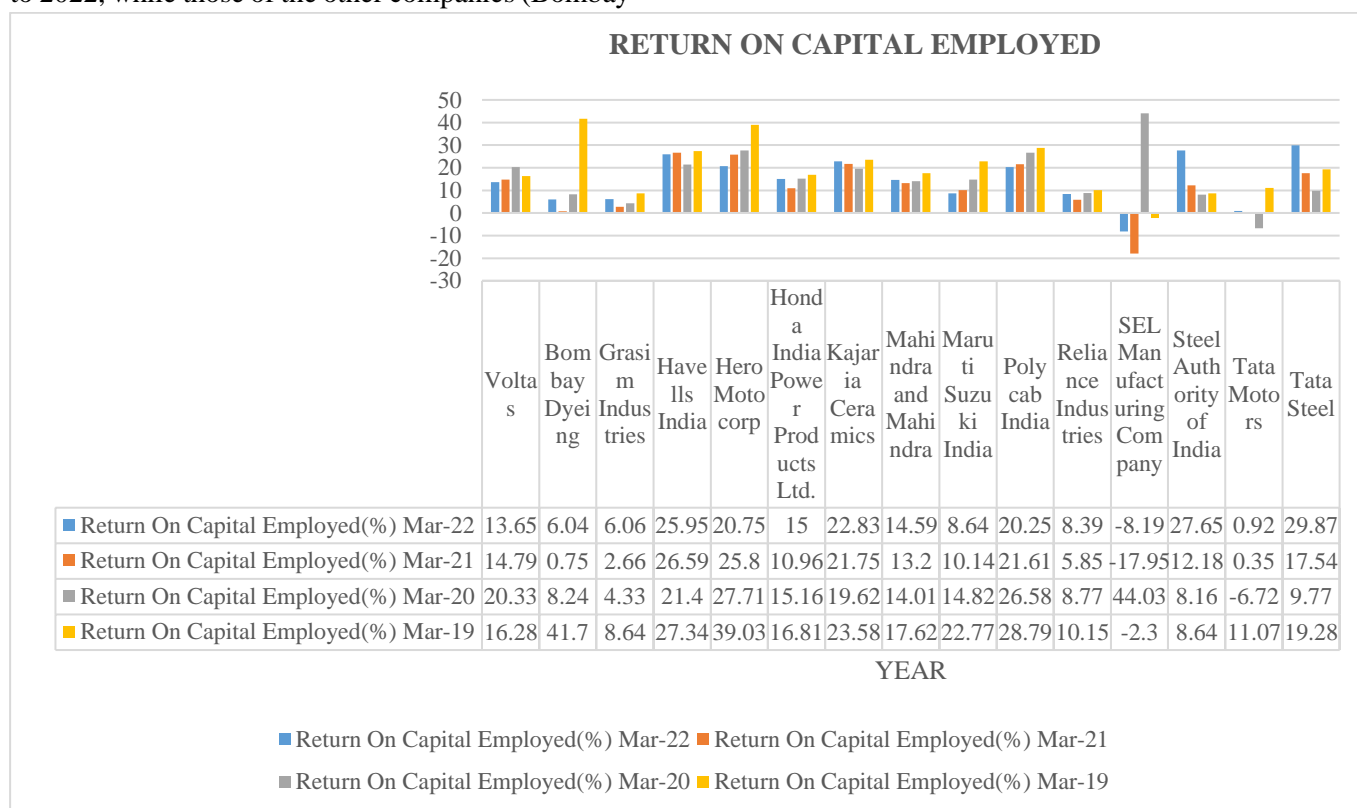
companies (Bombay Dyeing, Grasim Industries, Hero MotoCorp, Kajaria Ceramics, Mahindra and Mahindra, Maruti Suzuki India, Steel Authority of India, and Tata Motors) were falling from 2019 to 2022.



Net profit margin ratio is used to determine the percentage of profit an organisation generates from its total sales.

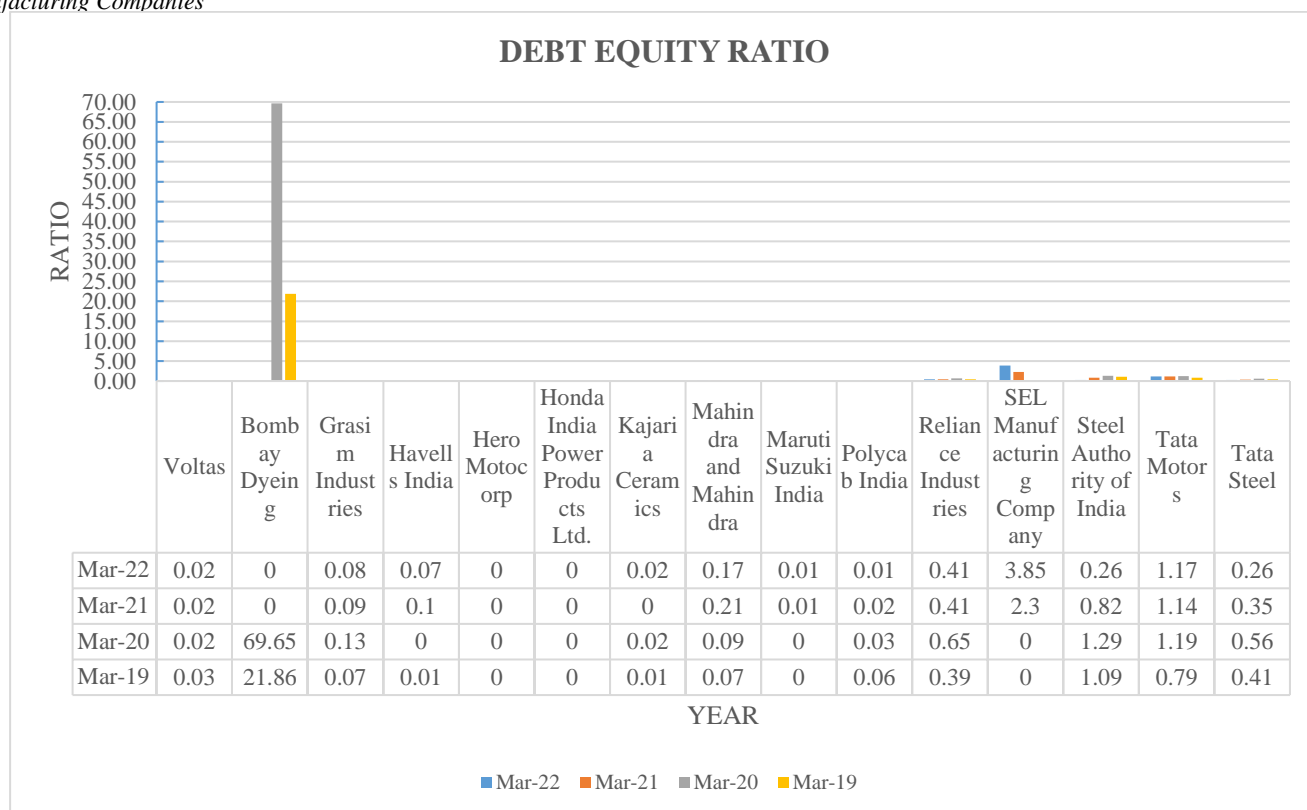
The Net profit ratio of Voltas, Grasim Industries, Havells India, Kajaria Ceramics, Polycab India, Steel Authority of India, SEL Manufacturing company and Tata Steel in the above chart were rising from 2019 to 2022, while those of the other companies (Bombay

Dyeing, Hero MotoCorp, Honda India Power Products Ltd., Mahindra and Mahindra, Maruti Suzuki India, Reliance Industries and Tata Motors) were falling from 2019 to 2022.



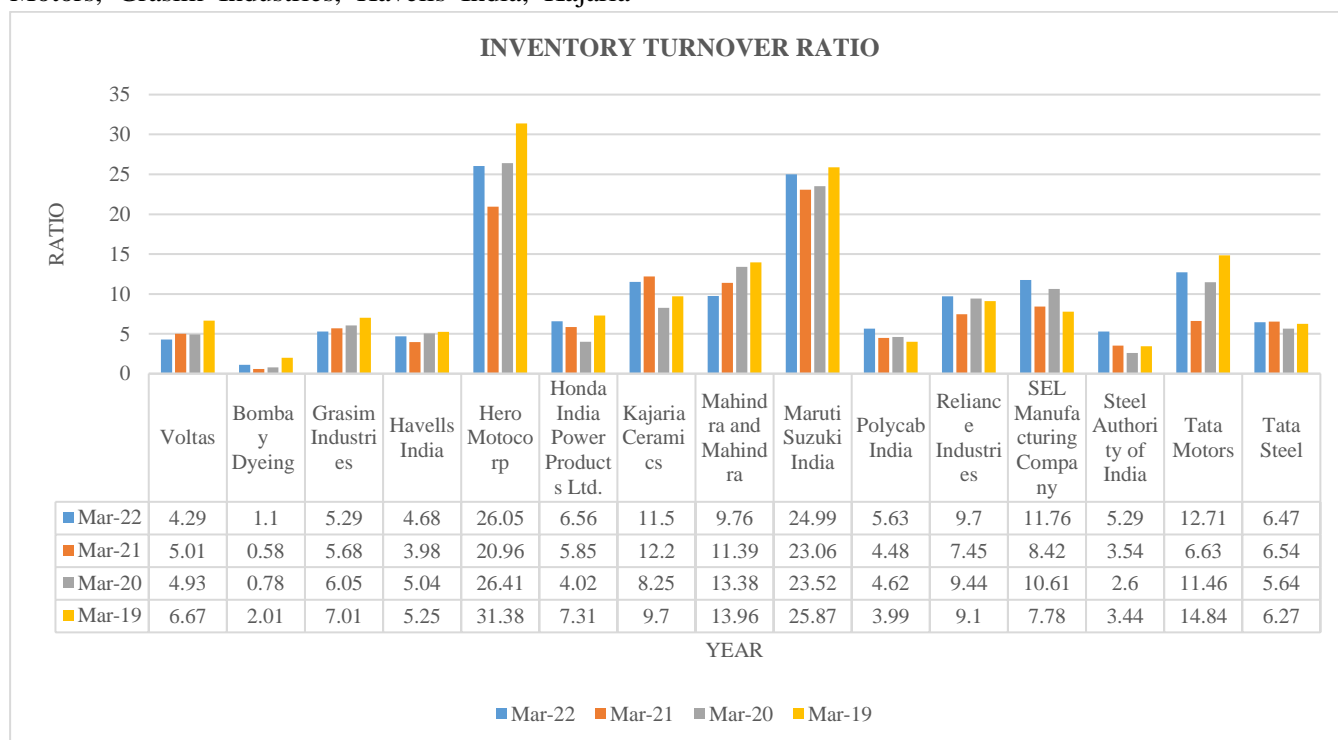
Return on capital employed is the profitability ratio that evaluate how effectively a business uses its capital to produce its profits. Based on the above figure, The ROI of Steel Authority of India and Tata Steel were rising from 2019 to 2022. While those of the other companies (Voltas, Bombay Dyeing,

Grasim Industries, Havells, Hero MotoCorp, Honda India Power Product Ltd., Kajaria Ceramics, Mahindra and Mahindra, Polycab India, Reliance Industries, SEL Manufacturing Company and Tata Motors) were falling from 2019 to 2022.



Debt equity ratio is the leverage ratio that determines how much overall debt and financial liabilities weight against total shareholder's equity. Based on the above figure the debt equity ratio of Mahindra & Mahindra, SEL manufacturing Company, Tata Motors, Grasim Industries, Havells India, Kajaria

Ceramics and Reliance Industries were rising from 2019 to 2022, while those of the other companies (Voltas, Bombay Dyeing, Hero MotoCorp, Honda India Power Products Ltd., Maruti Suzuki India, Polycab India, Steel Authority of India and Tata Steel) were falling from 2019 to 2022.



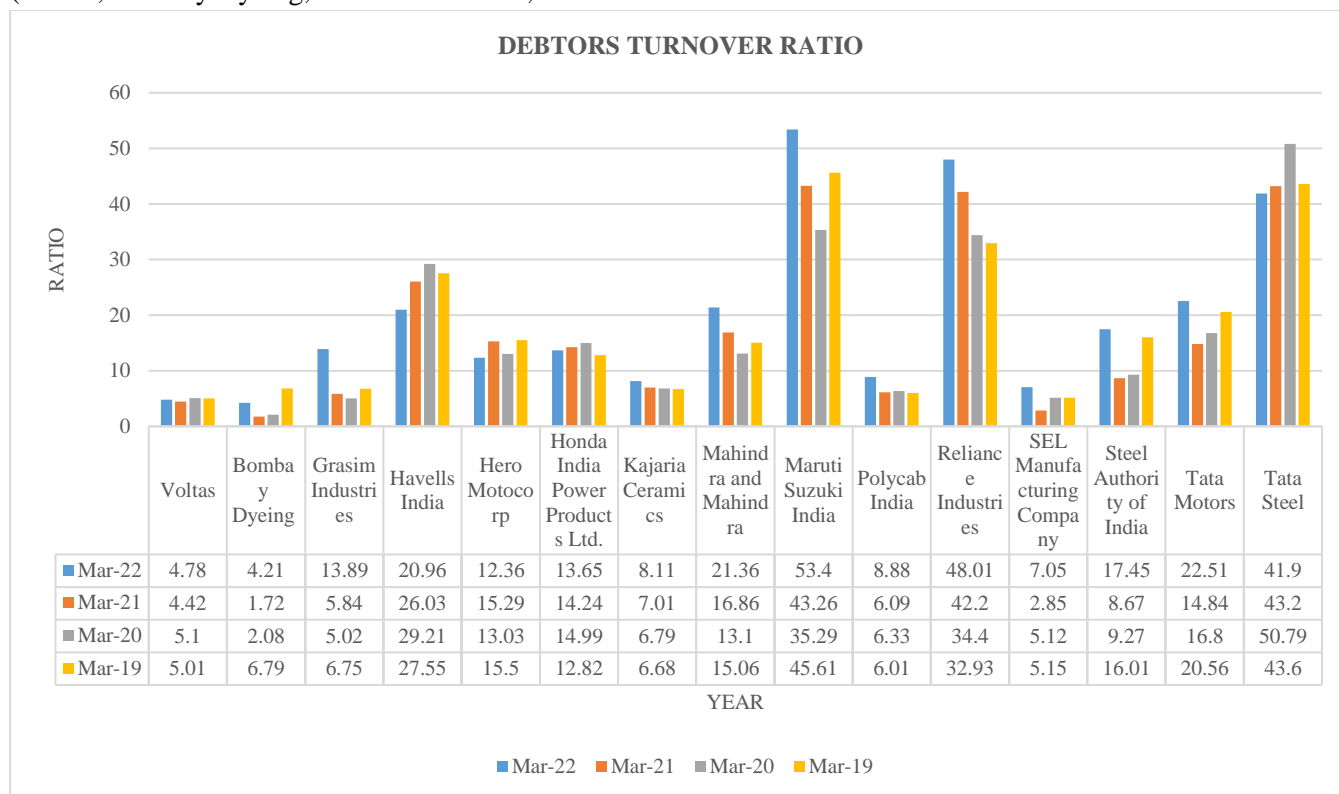
Inventory turnover ratio is the ratio which determine that how frequently inventory is sold over the course

of a period. Based on the above figure the inventory ratio of Kajaria Ceramics, Polycab India, Reliance



Industries, SEL Manufacturing Company, Steel Authority of India and Tata Steel were rising from 2019 to 2022. While those of the other companies (Voltas, Bombay Dyeing, Havells India, Hero MotoCorp and Tata Steel were falling from 2019 to 2022.

India, Hero MotoCorp, Honda India Power Product Ltd., Mahindra and Mahindra, Maruti Suzuki India and Tata Motors were falling from 2019 to 2022.



Debtors Turnover Ratio is an efficiency ratio that assesses how effectively a business uses its assets and, consequently, how effectively it collects revenue. Based on the above figure the debtor turnover ratio of Grasim Industries, Honda India Power Products Ltd., Kajaria Ceramics, Mahindra and Mahindra, Maruti Suzuki India, Polycab India, Reliance Industries, SEL Manufacturing Companies, Steel Authority of India and Tata Motors were rising from 2019 to 2022. While those of the other companies (Voltas, Bombay Dyeing, Havells India, Hero MotoCorp and Tata Steel were falling from 2019 to 2022.

Group					
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(Source: Author’s Compilation)

Above table shows the results of Paired sample t-test applied using SPSS. The results indicated that there is significant change during post Covid-19 from pre Covid-19 in the current ratio of selected companies. All companies have significant change at 5% significance level (significance value is less than 0.05). Mean value of first pair is 1.297 while value of correlation is .949 which represent positive correlation among the variables and mean value of second pair is .5820 while value of correlation is -.633 which represent positive correlation among the variables.

**Table 1. Paired Sample T-test (Current Ratio)**

	Mean	SD	SE	Correlation	Sig.
Pair Group	1.297	.98361	.25397	.949	.000
Group					
Pair Group	.5820	2.31084	.59666	-.633	.011

**Table 2. Return on capital employed:**

	Mean	SD	SE	Sig.
Pair Group	3.0786	5.6155	1.4499	.052
Group				

Pair	-3.5460	16.441	4.245	
Group 2				.418
Group 4				

Above table shows the results of paired sample t-test applied using SPSS. The results indicated that there is significant change during post Covid-19 from pre Covid -19 in the return on capital employed of selected companies. All companies have insignificant change at 5% significance level (significance value is more than 0.05). Mean value of first pair is 3.07867 and mean value of second pair is -3.54600 while the standard deviation of first pair and second pair are 5.61558 and 16.44127.

**Table 3. Debt Equity Ratio:**

	Me	S	S	Correlatio	Sig.
Pair				.952	
Group	.05733	.43744	.11295		.000
Group					
Pair				.99	
Group	3.2560	12.3205	3.1811		.000
Group					

Above table shows the results of debt equity ratio applied using SPSS. The results indicated that there is significant change during the post covid-19 from pre covid-19 in the debt equity ratio of selected companies. All companies have significant change at 5% significance level (significance value is less than 0.05). Mean value of the first pair is .05733 and the second pair is 3.25600 while the value of correlation of first pair is .952 and the second pair is .999 which represent the positive correlation between the variables.

**Table 4. Inventory Turnover Ratio:**

	Mean	S	SE	Correlatio	Sig.
Pair				.957	
Group	1.3340	2.1645	.55889		.000
Group					
Pair				.979	
Group	1.1886	1.8679	.48229		.000
Group					

Group					
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Above table shows the results of inventory turnover ratio applied using SPSS. The results indicated that there is significant change during the post covid-19 from pre covid-19 in the inventory turnover ratio of selected companies. All companies have significant change at 5% significant level (significant value is less than 0.05). Mean value of the first pair is 1.33400 and the second pair is -1.18867 while the value of correlation of first pair is .957 and the second pair is .979 which represent the positive correlation between the variables.

**Table 5. Debtor Turnover Ratio:**

	Mean	S	S	Correlatio	Sig.
Pair				.958	
Group	3.0666	4.5179	1.1665		.000
Group					
Pair				.958	
Group	-1.2473	4.1343	1.0674		.000
Group					

Above table shows the results of debtor turnover ratio applied using SPSS. The results indicated that there is significant change during the post covid-19 from pre covid-19 in the debtor turnover ratio of selected companies. All companies have significant change at 5% significant level (significant value is less than 0.05%). Mean value of the first pair is 3.06667 and the second pair is -1.24733 while the value of the correlation of the first pair is .958 and the second pair is .958 which represent the positive correlation between the variables.

**Table 6. Net Profit Margin:**

	Mean	S	S	Correlatio	Sig.
Pair				.682	
Group	178.32	700.96	180.98		.001
Group					
Pair				.938	
Group	56.555	211.75	54.675		.021
Group					

Above table shows the results of net profit margin ratio applied using SPSS. The results indicated that there is significant change during the post covid-19 from pre covid-19 in the net profit margin ratio of selected companies. All companies have significant change at 5% significant level (significant value is less than 0.05%). Mean value of the first pair is -178.328 and the second pair is -56.555 while the value of correlation of the first pair is .682 and the second pair is .938 which represent the positive correlation between the variables.

### Conclusion:

The main objective of this study was to investigate the effects of the COVID-19 pandemic on the financial performance of 15 selected companies. The findings of the study revealed that the pandemic had a significant impact on the financial performance of the companies. The analysis of financial ratios, including the current ratio, debt-equity ratio, net profit ratio, and inventory turnover ratio, showed a significant positive change in their values as a result of the pandemic. This suggests that the companies were able to adapt and manage their resources effectively to cope with the challenges posed by the pandemic. On the other hand, return on capital employed do not have any impact of pandemic. Our study indicated that due to lock down imposed by the government people were said to stay at home which has increased demand for the food product and provided free hand to do manufacturing smoothly. During the study we found that all the indicators of financial performance provided sound financial health to the selected manufacturing companies. Further the investigation can be done with the broad size of companies and data also can be increased as per the requirement of academicians and researchers.

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