Impact of Covid – 19 on Bajaj Auto Limited – An Empirical Study

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Abstract

COVID-19 has led the Indian Automobile Industry Market back by four to five years. With the passage of years the sales usually increases in almost every industries, but this outbreak of global pandemic has hampered the sales of almost each of the vehicle segments specially making the sales of FY20 at the same level as FY16, as per the reports available with the Society of Indian Automobile Manufacturers. This paper largely concentrates on the pre and during COVID impacts on the expected financial performance of Bajaj Auto Limited. With a short overview of Bajaj Auto Limited the period of the study has been taken from 2014-2015 to 2019-2020 in the form of actual data, and 2020-2021 to 2021-2022 as the forecasted data to analyse the effect of COVID on the expected financial performance of Bajaj Auto Limited. The key variables chosen for the analysis are Enterprise Value, Capitalization/Revenue Ratio (C/R Ratio), Price Earnings Ratio (P/E Ratio), Enterprise Value/Earnings before Depreciation, Interest, Tax and Amortization (EV/EBDITA) Ratio. Chi-square test is applied to test the uniformity of all these variables to ascertain the effect the pandemic on this particular automobile company. Significant results are obtained showing the rejection of null hypothesis claiming uniformity of all the performance and profitability ratios throughout the study period from 2014-2015 to 2021-2022.

Keywords: Enterprise value, Capitalization/Revenue Ratio, Price Earnings Ratio, Enterprise Value, Interest, Tax and Amortization Ratio, Financial Performance.

Introduction

There has been a significant and swift impact on today's automotive sector due to the global pandemic of COVID-19. Besides the overall halt in the smooth functioning of the industries either through man power shortage, or through improper revenue generation mechanism due to hindrances in sales, the loss of customers in this pandemic all in total disrupts the overall automobile industry. This industry is now more concerned with the disruption of production due to non-availability of Chinese parts that made the global automobile industry suffer a set-back in its supply base. There are several long-term impacts on automobile industries that can be given stated below:

- Lockdown scenarios in the world has called for a global recession that leads to a loss of consumers, thus significantly leads to loss of revenues and profitability
- Every industry sets aside the research and development funds for the ultimate betterment of the industries. But in this global pandemic situation the companies often are channelizing the funds for continuing basic operations mainly for the productions.
- In a sector there might be some less important segments that needs to be temporarily shut down due to lack of man power and other temporary hindrances.
- Significant measures of restructuring may be expected in the automobile sector as dealers are unable to meet the changing demand conditions.

For the global economy automotive industry is essential due to the fact that the economy turnover earnings depend largely on the automotive industry to a great extent. Further the automotive industry is a main component of economic growth as it provides a connection to the several types of other industries like steel, textiles, chemicals (being the component parts of the automobile industry), and also the other service sectors jointly in association with this automotive industry like repair, mobility services etc. Further the employment in this sector really shows the importance of this industry.

Thus this study aims to analyze the impact of Covid – 19 pandemic on a particular company belonged to the category of Automobile Industry in India.

Review of Literature

Research in the context of ongoing pandemic did not support us in finding a lot of reviews on this topic. But severe searching has given us the following literatures, a brief study with observations are given below.

1. Arya(2019): In the paper 'A Review of Growing Automobile Industry in India', the overall performance of the Indian Automobile Industry has been analyzed with some suggestions given via adoption of the innovative techniques that will surely make the automobile sector the largest one in the future. Research and development is the way out for the industry to be sustainable globally specially with their low cost skilled labours and low cost steel productions.

2. Chaudhury (2020) focused on various angles of the effect of the pandemic on Indian Automobile Industry ranging from impact of change in emission norms by Government to consumer sentiments and perceptions about the recovery of this automobile industry and lastly found out some positive news for auto industry in this pandemic. From the study the researcher found that about 75% customers from India believes that Indian economy will recover in the coming 6 months post lockdown. The paper also highlighted the fact that health concerns arising in the time of pandemic are forcing the age group between (25-35) years to purchase personal cars for greater protection.

3. Miglani (2019) deals with the India's national policy regarding the factors of upgradation, digitization and automation in the automobile industry. With the detailed structural analysis and the growth patterns of the automobile sector the governmental reforms since 1950 has been analyzed from the areas of demand, supply, firm strategies and others which ultimately led to upgradations and innovations. The study recommended for the large investments for the development of indigenous technologies that are specially eco-friendly and sustainable so that India could experience a sustainable development as a whole.

4. Moradiet. al. (2020): In the study titled 'The Impact of Coronavirus (Covid-19) Crisis on Consumer Perception in Automotive Industry: A Netnography Analysis of Peugeot Social Media' it was found through the exploratory research that the Covid pandemic largely altered the perception of the consumers towards their own safety and hygiene that will positively increase the personal car demand and the rate of purchases will increase in the future. Lastly the researcher recommended the greater use of electronic means of transportation to maintain the sustainability levels of the environment.

5. Rastogiet. al. (2013) gives a clear presentation of the SWOT analysis mentioning also the reasons for the downfall in the Indian Automobile Industry. The analysis further showed that demand for the vehicles depends on the various types of factors like convenience, cost of finance, density of the vehicles, demographic shape of the marketplace, and also the earning capability. Technology should further tap the developments of the automobile industry making this sector one of the largest one. To reach at the top the researchers prescribed constant innovation specially in the slowdown period, so that it leads to grater satisfaction of the consumers and also indirectly increases the sales.

6. Yadavet. al. (2020) deals with the impact of the automobile sector on the air pollution and also details the growth structure of this sector. With the increase in the disposable income of the countrymen the total demand and supply increases that leads to the increase in sales of the automobiles which thus increases the air pollution in the environment.

Based on the available literatures, it can be stated that most of the studies have been conducted as to analyzing the health of the automobile industries in India as well as in foreign countries before the outbreak of such pandemic crisis. But there is a dearth of literatures analyzing the exact condition of a single company belonged to the group of automobile industry in India. Therefore this study tries to bridge that gap.

Objectives of the Study

This study has three specific objectives –

- To sketch an overview of Bajaj Auto Limited.
- To analyze Pre Covid – 19 financial performance of Bajaj Auto Limited.
- To show the impact of Ovid – 19 pandemic on the expected financial performance of Bajaj Auto Limited.

Data and Methodology

This section consists of five sub-sections which are Overview of Sample Company, Period of Study, Data Sources, Key Variables and Hypotheses considered for this study.

Overview of Bajaj Auto Limited –Bajaj Auto Ltd. is one of the leading companies in the automobile industry of India. The company is presently engaged in manufacturing of motorcycles, scooters and

2

three wheelers. In India, Baja Auto has a distribution network of 485 dealers and over 1600 authorized services centres. It has total 3750 rural outlets in rural areas. As of now its market capitalization stands around INR 90000 Crore. In 2019-20, operating profit of the company was declined by 0.7% while profit before tax before exceptional items grew by 3.4% to INR 6580 Crore. It was the company's highest ever. Surplus cash and cash equivalents as on 31st March, 2020 reduced by 12.5% on account of payment of interim dividend in FY 2020.

Period of Study – For this study data are classified into two categories i.e. Actual data and Forecasted data. For actual data, last six years (2014-15 to 2019-20) and for forecasted data, only two years (2020-21 and 2021-22) have been considered.

Data Sources – All the data are collected from respective websites of the selected sample companies and other different web-links associated with the stock market performance of different listed companies.

Key Variables – Only four variables on the basis of which performance and valuation of the selected company can be judged have been selected for this study which are –

• **Enterprise Value –** it is a measure of a company's total value in terms of market capitalization represented by the product of market price per share and number of equity shares outstanding at the end of certain date or period. Higher the value, better is the performance of the company and vice-versa.
• **Capitalization/Revenue Ratio (C/R Ratio) –** This ratio utilizes a company's market CAPITALIZATION and revenue to determine whether the stock is valued properly. All things being equal, a low C/R ratio is good news for investors while a very high C/R ratio can be a warning sign.
• **Price Earnings ratio (P/E Ratio) –** It is the ratio for valuing a company that measures its Market Price per share (MPS) relative to its Earning per Share (EPS). Higher P/E ratio reflects the better position of the company in the stock market in terms of its market Value with compared to its peer companies.
• **Enterprise Value/ Earnings before Depreciation, Interest, Tax and Amortization (EV/EBDITA) Ratio -** It is such a ratio which is used to measure the performance of the company. Higher the ratio better will be the value of the company and hence represents better performance of the company too.

Hypotheses – There are four hypotheses set for the study.

H1: Enterprise Value of Bajaj Auto Limited is uniform throughout the period of study.

H2: Capitalization/Revenue Ratio of Bajaj Auto Limited is uniform throughout the period of study.

H3: P/E Ratio of Bajaj Auto Limited is uniform throughout the period of study.

H4: EV/EBDITA Ratio of Bajaj Auto Limited is uniform throughout the period of study.

Analysis and Findings

Following table represents the figures about the company relating to the value of the selected variables over selected span of time.

Table – 1: Database of Bajaj Auto Limited

Particulars	Actual						Forecasted	
	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Enterprise Value (In Crore)	57.901.68	68765.8	81066.9	78887.7	83430	58286.3	73452.7	72508.7
Capitalization/Revenue (In Times)	2.7	3.08	3.73	3.16	2.79	1.96	3.27	2.77
P/E Ratio	20	16.67	20	20	16.67	11.11	19.9	16.6
EV/EBDITA	12.32	11.74	14.36	12.87	12.58	8.53	16.9	13.6

Source: Annual reports and websites

This study takes the help of Chi-square test to analyze the effect of Covid-19 pandemic on Bajaj Auto Limited.

Table – 2: Computation of Chi-square (x2) Test with reference to Enterprise Value

Observed Frequency (OF)	Expected Frequency (EF)	(OF-EF)	Z = (OF - EF)²	X = Z/EF
57901.68	64549.75	-6648.07	44196834.72	684.694
68765.8	64549.75	4216.05	17775077.6	275.37
81066.85	64549.75	16517.1	272814592.4	4226.42
78887.69	64549.75	14337.94	205576523.4	3184.78
83429.99	64549.75	18880.24	356463462.5	5522.31
58286.26	64549.75	-6263.49	39231306.98	607.769
73452.7	64549.75	8902.95	79262518.7	1227.93
72508.7	64549.75	7958.95	63344885.1	981.334
516397.99	516398			16710.6

Source: Presentation by the Researchers

Here, Computed Value of x2 is 16710.6 where as the Critical Value of x2 at 5% level of significance with 7 degrees of freedom is 14.067.Since the Computed Value is greater than the Critical Value, therefore Null Hypothesis is rejected and hence it is concluded that Enterprise Value of Bajaj Auto Ltd. is uniform throughout the period of study. It means Covid – 19 impact is not there on the performance of Bajaj Auto Limited.

Table – 3: Computation of Chi-square (x2) Test with reference to Capitalization/Revenue Ratio

Observed Frequency (OF)	Expected Frequency (EF)	(OF-EF)	Z = (OF - EF)²	X = (Z/EF)
2.7	2.9325	-0.2325	0.05405625	0.01843
3.08	2.9325	0.1475	0.02175625	0.00742
3.73	2.9325	0.7975	0.63600625	0.21688
3.16	2.9325	0.2275	0.05175625	0.01765
2.79	2.9325	-0.1425	0.02030625	0.00692
1.96	2.9325	-0.9725	0.94575625	0.32251
3.27	2.9325	0.3375	0.11390625	0.03884
2.77	2.9325	-0.1625	0.02640625	0.009
23.46	23.46			0.63766

Source: Presentation by the Researchers

Here, Computed Value of x2 is 0.63766 where as the Critical Value of x2 at 5% level of significance with 7 degrees of freedom is 14.067. Since the Computed Value is lesser than the Critical Value, therefore Null Hypothesis is accepted and hence it is concluded that Capitalization/Revenue Ratio of Bajaj Auto Ltd.is not uniform throughout the period of study. Hence it is the fact that Covid – 19 impact lies on the performance of Bajaj Auto Ltd.

Table – 4: Computation of Chi-square (x2) Test with reference to P/E Ratio

Observed Frequency (OF)	Expected Frequency (EF)	(OF-EF)	Z = (OF - EF)²	X = Z/EF
20	17.61875	2.38125	5.67035	0.32184
16.67	17.61875	-0.94875	0.90013	0.05109
20	17.61875	2.38125	5.67035	0.32184
20	17.61875	2.38125	5.67035	0.32184
16.67	17.61875	-0.94875	0.90013	0.05109
11.11	17.61875	-6.50875	42.3638	2.40447
19.9	17.61875	2.28125	5.2041	0.29537
16.6	17.61875	-1.01875	1.03785	0.05891
140.95	140.95			3.82644

Source: Presentation by the Researchers

Here, Computed Value of x2 is 3.82644 where as the Critical Value of x2 at 5% level of significance with 7 degrees of freedom is 14.067. Since the Computed Value is lesser than the Critical Value, therefore Null Hypothesis is accepted and hence it is concluded that P/E Ratio of Bajaj Auto Ltd. is not uniform throughout the period of study. Hence it is the fact that Covid – 19 impact is present on the performance of Bajaj Auto Ltd.

Table – 5: Computation of Chi-square (x2) Test with reference to EV/EBDITA Ratio

Observed Frequency (OF)	Expected Frequency (EF)	(OF-EF)	Z = (OF - EF)²	X = Z/EF
12.32	12.8625	-0.5425	0.29430625	0.022880952
11.74	12.8625	-1.1225	1.26000625	0.09795967
14.36	12.8625	1.4975	2.24250625	0.174344509
12.87	12.8625	0.0075	0.00005625	0.0075
12.58	12.8625	-0.2825	0.07980625	0.006204568
8.53	12.8625	-4.3325	18.77055625	1.459324101
16.9	12.8625	4.0375	16.30140625	1.267359086
13.6	12.8625	0.7375	0.54390625	0.0422862
102.9	102.9			3.077859086

Source: Presentation by the Researchers

Here, Computed Value of x2 is 3.077859086 where as the Critical Value of x2 at 5% level of significance with 7 degrees of freedom is 14.067. Since the Computed Value is lesser than the Critical Value, therefore Null Hypothesis is accepted and hence it is concluded that EV/EBDITA Ratio of Bajaj Auto Ltd. is not uniform throughout the period of study. Hence it is the fact that Covid – 19 impact is present on the performance of Bajaj Auto Ltd.

Conclusion

Since the great depression, the COVID-19 has pushed the global economy into a serious crisis that disrupted the entire value-chains of the most industries in India, and the automotive industry is not an exception to this. The global lockdown, structural changes in the Goods and Service Tax, liquidity crunches etc has a multiplier effect along with the ongoing pandemic that has slashed the consumer demand affecting widely the automobile manufacturers' revenues and cash flows. Lack of research and development funding, has literally led some vehicle companies come out from the unprofitable market segments. Bajaj Auto Limited too has shown the clear effects of Covid on the performance of the company specially through the variables namely, Capitalization/Revenue Ratio (C/R Ratio), Price Earnings Ratio (P/E Ratio), Enterprise Value/Earnings before Depreciation, Interest, Tax and Amortization (EV/EBDITA) Ratio, taken for the study. The actual performance and profitability ratios from the period 2014-2015 to 2019-2020 have been analyzed and compared with the Covid affected financial years 2020-2021 and 2021-2022 through their forecasted values, showing lack of uniformity of the values throughout the period of the study. Some other reasons for the fluctuations in the performance and profitability ratios may be investigated later on in the future research works.

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