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A Comparative Study of Analysis of Financial Health of Automobile Industry

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Abstract: Automobile industry of India is on 4th place in the world in respect of selling passenger and commercial vehicles and will reach to 3rd largest country by 2021. It happens only when this industry perform well and produce and generate demand of the product. So present study focus on analysis of financial health of automobile industry. The main objective of the study to evaluate the financial health of automobile companies. For this purpose research select top 5 automobile companies based on market capitalization and time period of the study was 12 years from 2009 to 2020. The research applied Altman Z score and found that overall financial health of the sample companies was good except Scooter India ltd. The study also provide comparative analysis of financial health and found that Hero motocorp ltd is more stable company and it is followed by Bajaj auto ltd. The study concluded that financial health of automobile industry is in safe zone.

Keywords: Automobile, financial health, Altman Z score etc.

I. INTRODUCTION

Automobile industry of the India is in fourth place in 2019 in selling of passenger and commercial vehicles and it is expected it will crossed Japan in 2021 and will become 3rd largest industry in the world. Most of the Indian citizen depends on two wheelers and automobile industry also depends for revenue on middle class family. This industry of India also contribute in export and it will expand in near future. Indian automobile industry ready to become world leader in market share of sales of two and four wheelers by 2021. From 2016 to 2020, growth in production is CAGR 2.36% and 26.36 million vehicles produce in this period. Overall domestic sales increased with 1.29 %. India's automobile industry export reached 4.77 million in financial year 2020. Out of which 73.9 % is related to two wheelers and 10.5 % is related with three wheelers. The government of India also support automobile industry and 100 % foreign direct investment is allowed in this industry. Govt. also support electric vehicles production and for this in year 2019-20 central govt. allowed income tax deduction up to 1.5 lakh for payment of interest payment on loan taken for purchase of electric vehicles. In future the demand of automobile industry production will increase due to low labor cost and availability of technology and research and development in this industry. As per expectation India's automobile industry grow up to 16-18 trillion by 2026.(ibef.org.)

II. REVIEW OF LITERATURE

Kumar (2018) carried out a research to analysis financial performance of the automobile industry and study based on listed company on BSE and time period of the study was five years. The study found that overall financial performance of automobile industry were good and liquidity position affect the performance of the companies.

Geethalakshmi (2017) conducted a research to measure the financial health of the automobile industry and applied Z score model. The study found that financial health of the industry was good and performed well in near future.

Surekha (2015) conducted a research to measure the financial position of the TATA motors and study found that financial position of the company was remarkable.

III. RESEARCH METHODOLOGY

Objectives of the study:

1. To analyze the financial health of automobile industry using by Altman Z score model.
2. To comparative analysis of financial health of automobile industry.

Sample of the research:

The present study based on top 05 automobile companies which are based on market capitalization and selected through non probability judgmental sampling.

Period of the study:

The period of the study is 12 years from 2009 to 2020.

Data type and collection:

The study purely based on secondary data and collected by annual reports of the companies and various magazines and websites.

Tools and techniques:

The present study is applied Altman Z score model and various descriptive statistics like mean, standard deviation and coefficient of variation etc.

“Altman Z score Model explanation:

$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$$

Where

X_1 = Working capital/total assets

X_2 = Retained earnings /total assets

X_3 = Earnings before interest and taxes /total assets

X_4 = Market value of equity / book value of total debts

X_5 = Net sales /total assets”

Criteria to measure financial health:

1. Below 1.81 = distress zone
2. 1.81 to 2.99 = gray zone
3. Above 2.99 = safe zone

IV. ANALYSIS AND INTERPRETATION

Table No. 1: Trend of Financial Health of Atul Auto Ltd.

Years	X1	X2	X3	X4	X5	Z-Score
2009	-0.009	0.002	0.047	1.144	1.649	2.481
2010	0.011	0.041	0.133	1.734	1.684	3.236

2011	0.068	0.090	0.212	1.973	2.976	5.066
2012	0.157	0.117	0.260	2.065	3.407	5.855
2013	0.204	0.148	0.308	3.306	3.324	6.776
2014	0.275	0.139	0.308	7.853	3.320	9.574
2015	0.200	0.154	0.336	21.381	3.020	17.413
2016	0.294	0.151	0.326	16.824	2.679	14.413
2017	0.362	0.094	0.231	16.449	2.160	13.357
2018	0.385	0.116	0.232	11.950	1.895	10.457
2019	0.281	0.110	0.233	7.765	1.874	7.793
2020	0.180	0.119	0.181	4.061	1.647	5.064

Table no. 1 shows the Z score of Atul auto ltd. From 2009 to 2015 Z score of company has been improved continuously after that it declined from 2015 to 2020. The highest value of Z score is in 2015 which was 17.413 and minimum in 2009 which is 2.481. Z score of company was less than 2.99 in 2009 and company is in gray zone and company is in safe zone from 2010 to 2020. So overall company is in safe zone but value of Z score declined continuously.

Table No. 2: Trend of Financial Health of Bajaj Auto Ltd.

Years	X1	X2	X3	X4	X5	Z-Score
2009	0.131	0.047	0.213	3.674	1.586	4.716
2010	0.202	0.117	0.276	6.801	1.419	6.818
2011	-0.090	0.212	0.473	9.368	1.840	9.209
2012	0.045	0.133	0.373	9.330	1.821	8.888
2013	0.159	0.120	0.346	10.969	1.673	9.755
2014	0.056	0.104	0.323	11.374	1.422	9.527
2015	0.320	0.069	0.264	11.648	1.435	9.775
2016	0.060	0.028	0.334	20.770	1.438	15.114
2017	0.248	0.174	0.254	20.477	1.101	14.766
2018	0.201	0.091	0.241	16.103	1.064	11.889
2019	0.051	0.095	0.244	14.773	1.107	10.969
2020	0.074	-0.046	0.263	11.579	1.204	9.045

The table no. 2 shows the financial health of Bajaj auto ltd from 2009 to 2020. The Z score of the company is more than 2.99 and during study period company is in safe zone. Maximum value of Z score is in 2017 which is 14.766 and minimum in 2009 which is 4.716. So company is in safe zone during study period.

Table No. 3: Trend of Financial Health of Hero Motocorp Ltd.

Years	X1	X2	X3	X4	X5	Z-Score
2009	0.270	0.134	0.302	10.383	2.322	10.060
2010	0.128	-0.039	0.334	8.016	2.041	8.051
2011	-0.053	-0.047	0.226	4.069	1.969	5.026
2012	0.005	0.135	0.292	7.308	2.579	8.121
2013	0.037	0.067	0.237	5.379	2.410	6.557
2014	0.070	0.058	0.285	10.058	2.689	9.829

2015	0.091	0.091	0.332	13.200	2.783	12.035
2016	0.188	0.109	0.326	12.319	2.259	11.105
2017	0.208	0.081	0.294	11.194	1.946	9.997
2018	0.250	0.090	0.287	10.874	1.798	9.698
2019	0.212	0.057	0.260	7.900	1.742	7.673
2020	0.220	0.065	0.230	5.435	1.442	5.817

Table no. 3 shows the financial health of Hero motocorp ltd. from 2009 to 2020. During study period company is in safe zone and maximum value of Z score is in 2015 which is 12.035 and minimum in 2011 which is 5.026. Hero motocorp ltd performed well during study period.

Table no 4: Trend of Financial Health of Scooters India Ltd.

Years	X1	X2	X3	X4	X5	Z-Score
2009	-0.016	-0.380	-0.334	1.160	1.898	0.940
2010	-0.119	-0.310	-0.248	1.582	1.570	1.123
2011	-0.251	-0.182	-0.069	1.135	1.870	1.769
2012	-0.640	-0.184	-0.040	0.794	2.109	1.428
2013	-0.006	1.028	1.047	1.250	2.040	7.676
2014	0.405	0.086	0.091	1.849	1.228	3.246
2015	0.254	0.060	0.062	2.343	0.899	2.898
2016	0.283	0.030	0.041	2.590	0.828	2.899
2017	0.406	-0.055	-0.047	4.477	0.659	3.600
2018	0.493	-0.158	-0.152	10.655	0.428	6.690
2019	0.391	-0.044	-0.044	5.973	0.558	4.404
2020	0.343	-0.171	-0.169	3.431	0.783	2.457

Table no. 4 shows the financial health of Scooters India ltd from 2009 to 2020. During study period company is in distress, gray and safe zone. From 2009 to 2012 company's Z score value was less than 1.81 so company was in distress zone after that company improved and Z score was above 2.99 and company reached is safe zone in 2013. Company is in safe zone in 2013 and 2014. After that company was lied in gray zone in next two years. In 2017 to 2019 company is in safe zone and in 2020 company is in gray zone. The maximum value of Z score is in year 2013 which is 7.676 and minimum in 2009 which is 0.940.

Table No. 5: Trend of Financial Health of T V S Motor Co. Ltd.

Years	X1	X2	X3	X4	X5	Z-Score
2009	-0.312	0.005	0.038	0.852	1.563	1.831
2010	0.013	0.020	0.087	2.589	1.683	3.568
2011	-0.077	0.046	0.112	1.479	2.330	3.558
2012	-0.105	0.055	0.124	0.968	2.429	3.369
2013	-0.065	0.016	0.100	0.778	2.449	3.191
2014	-0.073	0.051	0.120	2.104	2.396	4.037
2015	-0.111	0.052	0.103	4.178	2.313	5.099
2016	-0.184	0.056	0.137	4.981	2.401	5.699

2017	-0.183	0.069	0.124	5.626	2.184	5.847
2018	-0.232	0.065	0.129	6.606	2.122	6.325
2019	-0.159	0.055	0.125	4.386	2.125	5.056
2020	-0.177	0.041	0.090	2.415	1.717	3.307

Table no. 5 shows the financial health T V S Motor co. ltd. in 2009 company's Z score is 1.831 and company is in gray zone and after that company lies in safe zone and the value of Z score above 2.99 and lied in safe zone. The maximum value of Z score is in 2018 which is 6.325 and minimum in 2009 which is 1.831.

Table no. 6: Z-Score of Sample Companies

Years	Atul Auto Ltd.	Bajaj Auto Ltd.	Hero Motocorp Ltd.	Scooters India Ltd.	T V S Motor Co. Ltd.
2009	2.481	4.716	10.060	0.940	1.831
2010	3.236	6.818	8.051	1.123	3.568
2011	5.066	9.209	5.026	1.769	3.558
2012	5.855	8.888	8.121	1.428	3.369
2013	6.776	9.755	6.557	7.676	3.191
2014	9.574	9.527	9.829	3.246	4.037
2015	17.413	9.775	12.035	2.898	5.099
2016	14.413	15.114	11.105	2.899	5.699
2017	13.357	14.766	9.997	3.600	5.847
2018	10.457	11.889	9.698	6.690	6.325
2019	7.793	10.969	7.673	4.404	5.056
2020	5.064	9.045	5.817	2.457	3.307
Mean	8.457	10.039	8.664	3.261	4.241
SD	4.680	2.931	2.151	2.113	1.347
CV	55.34%	29.20%	24.83%	64.81%	31.76%

Table no. 6 shows the comparative analysis of Z score of 5 companies of Automobile industry (2 and 3 wheelers). The table represent that mean value of Bajaj auto ltd. is highest among sample companies and mean value of Z score of Bajaj auto ltd was 10.039 followed by Hero motocorp ltd and Z score value of Hero Motocorp ltd was 8.664 and minimum value of Z score was of Scooters India ltd. and it was 3.261. Bajaj auto ltd and Hero motocorp ltd were in safe zone during study period while Atul Auto ltd. and T V S motor co. ltd were also in safe zone except in year 2009. Scooters India ltd was lied in distress zone from 2009 to 2012 and in 2015, 2016 and in 2020 lied in gray zone. The CV value of Hero motocorp ltd is 24.83 and it is minimum which shows that Z score of company was in consistency and CV value of Z score of Scooters India ltd was highest and it shows that company's financial health is not stable and there is huge variation in Z score value.

V. CONCLUSION

The present study concluded that financial health of automobile companies is good during study period except of Scooters India ltd. The company's financial health is not well and remaining companies are performed well and when research compare companies, research found that Hero motocorp ltd.'s financial health is overall good and it is followed by Bajaj auto ltd. The study suggests that company should focus on their financial resources and management of the resources.

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