

Financial Performance and Bankruptcy Analysis of Automobile Industry in India Using Z score

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Abstract: An analysis of the performance of the business will help to assess the financial stability of such business. Financial performance analysis refers to the process of determining financial strength and weakness of the firm by establishing strategic relationship between the items of the balance sheet, profit and loss account. In this the Researcher has attempted to analyze the financial performance of Indian automobile companies by using Z score model. The objective of this study is to apply Altman's Z-Score in an empirical analysis taking into consideration the ten automobile companies of India. The study helps to provide suggestions to the firms to avoid financial distress.

I. INTRODUCTION

The global financial crisis and the increased number of corporate defaults emphasize the importance of effective fund management. It has been widely acknowledged that the improper management of financial resources leads to wind up by triggering their bankruptcies. Bankruptcies seem to unfold rapidly and news about them seems unexpected, although the signs may have been in evidence for years before the filing takes place. Predicting bankruptcy is a dire vital for taking a curative and corrective measures for better financial planning, profitability, liquidity and solvency efficiency of the firm. Naturally, many organizational stakeholders are interested in finding a reliable method to predict bankruptcy and financial distress. To date, the methods designed to predict bankruptcy events have had mixed reviews. One common bankruptcy prediction method is Altman's Z-Score model. In this study an attempt has been made to analyze the financial performance of automobile companies in India and also to predict the risk of bankruptcy for selected companies in the industry.

Bankruptcy

Bankruptcy is a legal proceeding involving a person or business that is unable to repay outstanding debts. The bankruptcy process begins with a petition filed by the debtor, which is most common, or on behalf of creditors, which is less common. All of the debtor's assets are measured and evaluated, and the assets may be used to repay a portion of outstanding debt.

Altman Z Score

The Altman Z-Score is an analytical representation created by Edward Altman as an output of a credit-strength test that gauges a publicly traded manufacturing company's likelihood of bankruptcy in the 1960s which involves a combination of five distinctive financial ratios used for determining the odds of bankruptcy amongst companies. It uses profitability, leverage, liquidity, solvency and activity to predict whether a company has a high degree of probability of being insolvent.

He developed the Z-Score after evaluating 66 companies, half of which had filed for bankruptcy between 1946 and 1965. He started out with 22 ratios classified into five categories (liquidity, profitability, leverage, solvency and activity) but eventually narrowed it down to five ratios. Most commonly, a lower score (value of Z) reflects higher odds of bankruptcy. Though Altman devised the Z-Score in the 1960s, the notion of trying to predict which companies would fail was far from new at that time. However, Altman added a statistical technique called multivariate analysis to the mix of traditional ratio-analysis techniques, and this allowed him to consider not only the effects of several ratios on the "predictiveness" of his bankruptcy model, but to consider how those ratios affected each other's usefulness in the model.

Purpose of the Z Score

The purpose of the Z Score Model is to measure a company's financial health and to predict the probability that a company will collapse within 2 years. It is proven to be very accurate to forecast bankruptcy in a wide variety of contexts and markets. Studies show that the model has 72% – 80% reliability of predicting bankruptcy. However, the Z-Score does not apply to every situation. It can only be used for forecasting if a company being analyzed can be compared to the database.

The Z-Score is a commonly used metric with wide appeal, though it is just one of many credit scoring models in use today that essentially combine quantifiable financial indicators with a small number of variables in an attempt to predict whether a firm will fail.

Over time, however, the Z-Score has proved to be one of the most reliable predictors of bankruptcy -- so much so that analysts often equate certain Z-Scores with corresponding bond ratings. In fact, when Altman re-evaluated his methods by examining 86 distressed companies from 1969 to 1975 and then 110 bankrupt companies from 1976 to 1995 and later 120 bankrupt companies from 1996 to 1999, the Z-Score was between 82% and 94% accurate. The old "garbage in, garbage out" motto applies, however: if the company financials are misleading or incorrect, the Z-Score will be, too.

It's important to remember that changes in a company's Z-Score are as important, if not more important, than the Z-Score itself. After all, knowing a company is heading down the wrong path is better than learning about it after the fact. For example, Enron's Z-Score gave it the equivalent of a BBB bond rating at year-end 1999, but it had a score equal to a B rating by June 2001 -- unlike the ratings agencies, which rated Enron as BBB until just before it filed for bankruptcy.

Need for the study

The need for this study is two-fold. The unique characteristics of business failures are examined in order to specify and quantify the variables which are effective indicators and predictors of corporate distress where Z-scores are used to predict corporate defaults and an easy-to-calculate control measure for the financial distress status. The study also aims in providing information to the investors and making them aware to use Z score model as an investment check list to be on the safer side.

Objectives of the study

- To analyze the liquidity position using traditional financial metrics and to forecast firm's impending bankruptcy.
- To make the investors aware and to suggest them Altman Z scores as an investment checklist.
- To suggest the firms in general to take efforts to increase the liquidity position and to take measures to avoid financial distress.

II. METHODOLOGY

In order to study the financial health of automobile industry in India, ten automobile companies have been considered. The study has been undertaken for the period of five years from 2012 to 2016. The data for this study is collected purely through secondary source. Data as on the closing date of financials are taken for five years for 10 companies. The major sources for data collection are websites, Thomson Reuters, websites of stock exchanges etc. Market value of share is calculated by using the share price from NSE (National Stock Exchange) and no of outstanding shares of the company.

The Standard Z-Score

The formula for the Z-Score (which incorporates those seven simple pieces of data) is:

$$Z\text{-Score} = ([Working\ Capital / Total\ Assets] \times 1.2) + ([Retained\ Earnings / Total\ Assets] \times 1.4) + ([Operating\ Earnings / Total\ Assets] \times 3.3) + ([Market\ Capitalization / Total\ Liabilities] \times 0.6) + ([Sales / Total\ Assets] \times 1.0)$$

1. Working Capital to Total assets (WC to TA)
2. Retained Earnings to Total assets (RE to TA).
3. Operating earnings to Total assets (OE to TA).
4. Market capitalization to Total liabilities (MC to TL).
5. Sales to Total assets (SALES to Total assets).

The ratios are referred in short form at the time of interpretation and tabulation. In general, the lower the score, the higher the chance of bankruptcy. For example, a Z-Score above 3.0 indicates financial soundness; below 1.8 suggests a high likelihood of bankruptcy.

Altman Z Score Analysis

In general analysis, the lower the Z-Score, the higher risk of bankruptcy a company has, and vice versa. Different models have different overall predictability scoring. Probabilities of bankruptcy in the above ranges are 95% for one year and 70% within two years.

Forecasting Based On Z-Score

Z-Score	Forecast
Above 3.0	Bankruptcy is not likely
1.8 to 3.0	Bankruptcies cannot be predicted-Gray area
Below 1.8	Bankruptcy is likely

Sample Design

The sample consists of the 10 companies selected from automobile industry. The companies are selected on the basis of the market potential and the fundamentals. The companies taken for the research are very strong financially, with a solid track record of producing earnings and only a moderate amount of debt. Table 1 list out the sample companies for the study.

Table1: Sample Companies for the Study

S. No	Name of the Company
1	Eicher motors ltd.
2	Tata motors ltd.
3	Bajaj auto ltd.
4	Hero moto corp ltd.
5	Force motors ltd.
6	Ashok Leyland ltd.
7	Hindustan motors ltd
8	Sundaram clayton
9	Premier ltd.
10	Maruthi Suzuki India ltd.

Tools Applied

To predict the financial health of automobile companies in India, Z score analysis has been applied by considering liquidity, solvency, profitability and financial efficiency. In order to analyze the financial health of sample automobile units in India in terms of liquidity, solvency, profitability and financial efficiency, various accounting ratios like Ratio of working capital to total assets, Ratio of net operating profit to net sales, ratio of earnings before interest and taxes to total assets, Ratio of market value of equity to Market value of debt and Ratio of sales to total assets have been used.

Limitations of the study

1. The study is done only one the public companies in Automobile industry.
2. This study is limited to the rational investors as it is assumed that all the investors are rational.

III. DATA ANALYSIS AND INTERPRETATION

To predict the financial health of selected automobile companies in India, liquidity, solvency, profitability and financial efficiency have been found out first and presented in this portion. Various accounting ratios like Ratio of working capital to total assets, Ratio of net operating profit to net sales, ratio of earnings before interest and taxes to total assets, Ratio of market value of equity to Market value of debt and Ratio of sales to total assets have been calculated and tabulated here.

EICHER Motors Ltd

One of the companies selected for the study is Eicher Motor Ltd. The financial data namely sales, assets liabilities, working capital, retained earnings and market value of equity of Eicher Motor Ltd for the study period are exhibited in Table 2.

Table 2: Financials of Eicher Motors Ltd. (Rs in Cr)

Year	Sales	Assets	Liabilities	Working capital	Retained earnings	Market value of equity	EBIT
2015-16	15428.83	8478.75	3857.61	266.85	998.35	52847.11	2098.5
2014-15	9459.18	2228.89	995.23	195.05	967.11	40860.46	992.62
2013-14	758.58	1489.18	661.84	330.45	618.54	13454.14	670.56
2012-13	7131.68	1024.24	395.19	691.92	455.76	7848.11	599.7
2011-12	6272.77	782.38	242.34	1026.49	381.62	4016.5	660.2

Source: Thomson Reuters Knowledge/ Computed From Annual Reports

Table 3: Ratios of Eicher Motors Ltd

YEAR	WC to TA	RE to TA	OE to TA	MC to TL	SALES to TA
2015-16	0.031473	0.117747	0.247501	13.69944	1.819706
2014-15	0.08751	0.433898	0.445343	41.0563	4.243897
2013-14	0.221901	0.415356	0.450288	20.32839	0.509394
2012-13	0.675545	0.444974	0.585507	19.85908	6.962899
2011-12	1.31201	0.487768	0.843835	16.57382	8.017549

Source: Computed

TATA Motors Ltd

One of the companies selected for the study is Tata Motors Ltd. The financial data namely sales, assets liabilities, working capital, retained earnings and market value of equity of Tata Motors Ltd for the study period are depicted in Table 4.

Table 4: Financials of Tata Motors Ltd

Year	Sales	Assets	Liabilities	Working capital	Retained earnings	Market value of equity	EBIT
2015-16	277181.45	269,297.60	187,626.67	4494.67	14025.65	130641.88	13980.87
2014-15	266345.25	238657.99	181962.73	1486.4	13956.69	182209.48	21702.56
2013-14	233662.64	219998.32	153974.22	3489.2	1495.44	127781.59	18868.97
2012-13	193583.95	170026.45	132018.67	-12279.17	9143.85	96915.72	13633.48
2011-12	170677.58	54260.93	34893.27	-8425.25	11734.47	87256.66	13533.87

Source- Thomson Reuters Knowledge/ Computed From Annual Reports

Table 5: Ratios Tata Motors Ltd

YEAR	WC to TA	RE to TA	OE to TA	MC to TL	SALES to TA
2015-16	0.01669	0.052082	0.051916	0.696286	1.029276
2014-15	0.006228	0.05848	0.090936	1.001356	1.116012
2013-14	0.01586	0.006798	0.085769	0.82989	1.062111
2012-13	-0.07222	0.053779	0.080184	0.734106	1.138552
2011-12	-0.15527	0.21626	0.249422	2.500673	3.145497

Source: Computed

BAJAJ Auto

One of the companies selected for the study is Bajaj Auto Ltd. The financial data namely sales, assets liabilities, working capital, retained earnings and market value of equity of Bajaj Auto Ltd for the study period are portrayed in Table 6.

Table 6: Financials Bajaj Auto (Rs in Cr)

Year	Sales	Assets	Liabilities	Working capital	Retained earnings	Market value of equity	EBIT
2015-16	23546.24	16426.63	3381.17	1672.82	7253.23	\$69,620.26	5295.31
2014-15	22015.43	15965.6	4870.24	5089.97	6919.94	\$30,430.10	4082.95
2013-14	20735.68	15307.76	5140.44	893.58	6150.45	\$27,127.39	4654.87
2012-13	20662.36	12675.73	4610.43	2015.66	4920.26	\$21,067.04	4266.23
2011-12	19892.28	11165.42	5083.53	518.06	3705.14	\$17,772.15	4160.17

Source: Computed

Table 7: Ratios Of Bajaj Auto

YEAR	WC to TA	RE to TA	OE to TA	MC to TL	SALES to TA
2015-16	0.101836	0.441553	0.322361	20.59058	1.433419
2014-15	0.318809	0.433428	0.255734	6.248173	1.378929
2013-14	0.058374	0.401786	0.304086	5.277251	1.354586
2012-13	0.159017	0.388164	0.336567	4.569431	1.630073
2011-12	0.046399	0.331841	0.372594	3.496025	1.781597

Source: Computed

HERO MOTO CORP

One of the companies selected for the study is Hero Moto Corp. The financial data namely sales, assets liabilities, working capital, retained earnings and market value of equity of Hero Moto Corp for the study period are portrayed in Table 8.

Table8: Financials of Hero Moto Corp

Year	Sales	Assets	Liabilities	Working capital	Retained earnings	Market value of equity	EBIT
2015-16	30434.29	12340.69	4395.94	1914.81	2465.8	58,384.63	4395
2014-15	29020.98	10654.35	4095.81	1393.49	2364.7	52,997.06	3291.96
2013-14	27005.26	10121.58	4498.08	1134.67	2102.66	44,831.84	2864.1
2012-13	25474.54	9641.65	4635.41	906.93	2118.16	31,876.12	2592.2
2011-12	25024.04	9888.92	5599.09	489.52	2378.13	41,040.77	2864.71

Source- THOMSON REUTERS KNOWLEDGE/ COMPUTED FROM ANNUAL REPORTS

Table 9: Ratios of Hero Moto Corp

YEAR	WC to TA	RE to TA	OE to TA	MC to TL	SALES to TA
2015-16	0.155162	0.199811	0.356139	13.28149	2.466174
2014-15	0.130791	0.221947	0.308978	12.93934	2.723862
2013-14	0.112104	0.20774	0.28297	9.966884	2.668087
2012-13	0.094064	0.219689	0.268854	6.876655	2.642135
2011-12	0.049502	0.240484	0.289689	7.329901	2.530513

SOURCE: COMPUTED FROM THE DATA IN TABLE

FORCE MOTORS

One of the companies selected for the study is Force Motors. The financial data namely sales, assets liabilities, working capital, retained earnings and market value of equity of Force Motors for the study period are portrayed in Table 10.

TABLE10: FINANCIAL DATA OF FORCE MOTORS

Year	Sales	Assets	Liabilities	Working capital	Retained earnings	Market value of equity	EBIT
2015-16	34567410971	22938581839	8134171947	5000108867	1325482352	\$388,831,500,473.00	2492843620
2014-15	26392721873	19749078765	6548034289	4027476390	1016232182	\$188,427,300,094.00	1253200912
2013-14	23014756082	17748510377	5458682193	3546672543	779248787	\$46,759,227,888.00	629610660
2012-13	22766708984	17105796365	5548970264	3645171885	144942914	\$44,762,603,585.00	194448263
2011-12	20033523458	16985485233	5523526582	3568292253	207856245	\$62,284,135,005.00	165875652

Source- THOMSON REUTERS KNOWLEDGE/ COMPUTED FROM ANNUAL REPORTS

TABLE 11: RATIOS OF FORCE MOTORS

YEAR	WC to TA	RE to TA	OE to TA	MC to TL	SALES to TA
2015-16	0.217978	0.057784	0.108675	47.80222	1.506955
2014-15	0.203932	0.051457	0.063456	28.77616	1.336403
2013-14	0.199829	0.043905	0.035474	8.566029	1.296715
2012-13	0.213096	0.008473	0.011367	8.066831	1.330935
2011-12	0.210079	0.012237	0.009766	11.27615	1.17945

SOURCE: COMPUTED

ASHOK LEYLAND

One of the companies selected for the study is Ashok Leyland. The financial data namely sales, assets liabilities, working capital, retained earnings and market value of equity of Ashok Leyland for the study period are portrayed in Table 12.

TABLE 12: FINANCIALS OF ASHOK LEYLAND

Year	Sales	Assets	Liabilities	Working capital	Retained earnings	Market value of equity	EBIT
2015-16	2065713.28	2296315.37	1767000.06	-7706.48	16592.23	\$3,060,740.32	15187.7
2014-15	1536497.18	1952462.49	1475017.07	-30499.25	13389.01	\$2,077,649.61	-4155.83
2013-14	1151239.08	1753430.99	1289296.88	-86478.71	-16412.24	\$609,294.95	-30020.62
2012-13	1353160.43	1309670.21	864159.75	-99956.53	43370.67	\$586,679.20	47070.67
2011-12	1391287.43	1191574.71	770342.09	-53925.36	56597.66	\$808,845.70	68997.66

Source- THOMSON REUTERS KNOWLEDGE/ COMPUTED FROM ANNUAL REPORTS

TABLE 13: RATIOS OF ASHOK LEYLAND

YEAR	WC to TA	RE to TA	OE to TA	MC to TL	SALES to TA
2015-16	-0.00336	0.007226	0.006614	1.732168	0.899577
2014-15	-0.01562	0.006857	-0.00213	1.40856	0.786953
2013-14	-0.04932	-0.00936	-0.01712	0.472579	0.656564
2012-13	-0.07632	0.033116	0.035941	0.678901	1.033207
2011-12	-0.04526	0.047498	0.057905	1.049982	1.167604

SOURCE: COMPUTED

HINDUSTAN MOTORS

One of the companies selected for the study is Hindustan Motors. The financial data namely sales, assets liabilities, working capital, retained earnings and market value of equity of Hindustan Motors for the study period are portrayed in Table 14.

TABLE 14: FINANCIAL DATA OF HINDUSTAN MOTORS

Year	Sales	Assets	Liabilities	Working capital	Retained earnings	Market value of equity	EBIT
2015-16	25.31	5158.62	14504.03	-11507.6	-4352.86	\$10,850.28	-3204.47
2014-15	1694.61	7047.22	13186.82	-7366.26	-4190.23	\$14,293.16	-4190.23
2013-14	22581.37	18898.73	22392.13	-8249.1	-307.41	\$13,303.58	-70.84
2012-13	88211.03	26594.63	29885.98	-15473.76	-7347.81	\$16,293.31	-8588.82
2011-12	59633.62	34894.16	31919.63	-13585.79	-3141.84	\$16,162.46	-4782.9

Source- THOMSON REUTERS KNOWLEDGE/ COMPUTED FROM ANNUAL REPORTS

TABLE 15: RATIOS OF HINDUSTAN MOTORS

YEAR	WC to TA	RE to TA	OE to TA	MC to TL	SALES to TA
2015-16	-2.23075	-0.8438	-0.62119	0.748087	0.004906
2014-15	-1.04527	-0.59459	-0.59459	1.083898	0.240465
2013-14	-0.43649	-0.01627	-0.00375	0.594119	1.194862
2012-13	-0.58184	-0.27629	-0.32295	0.545182	3.316874
2011-12	-0.38934	-0.09004	-0.13707	0.506349	1.708986

SOURCE: COMPUTED

SUNDARAM CLAYTON

One of the companies selected for the study is Sundaram Clayton. The financial data namely sales, assets liabilities, working capital, retained earnings and market value of equity of Sundaram Clayton for the study period are portrayed in Table 16.

TABLE 16: FINANCIAL DATA OF SUNDARAM CLAYTON

Year	Sales	Assets	Liabilities	Working capital	Retained earnings	Market value of equity	EBIT
2015-16	1527.94	1056.1	630.55	14.87	389.65	\$4,209.29	454.03
2014-15	1346.11	978.3	603.69	17.4	328.26	\$3,684.46	444.16
2013-14	1196.76	944.6	600.97	-9.91	186.3	\$1,112.76	307.09
2012-13	1018.56	914.01	621.95	-35.75	195.79	\$290.58	281.9
2011-12	1053.12	919.45	636.96	-44.17	166.17	\$355.63	269.84

Source- THOMSON REUTERS KNOWLEDGE/ COMPUTED FROM ANNUAL REPORTS

TABLE 17: RATIO OF SUNDARAM CLAYTON

YEAR	WC to TA	RE to TA	OE to TA	MC to TL	SALES to TA
2015-16	0.01408	0.368952	0.429912	6.675577	1.446776
2014-15	0.017786	0.335541	0.454012	6.10324	1.375969
2013-14	-0.01049	0.197226	0.325101	1.851614	1.266949
2012-13	-0.03911	0.21421	0.308421	0.467213	1.114386
2011-12	-0.04804	0.180728	0.29348	0.558324	1.14538

SOURCE: COMPUTED FROM THE DATA IN TABLE

PREMIER

One of the companies selected for the study is Premier. The financial data namely sales, assets liabilities, working capital, retained earnings and market value of equity of Premier for the study period are portrayed in Table 18.

TABLE 18: FINANCIAL DATA OF PREMIER

Year	Sales	Assets	Liabilities	Working capital	Retained earnings	Market value of equity	EBIT
2015-16	9996.48	96579.16	55933.45	6005.12	-4895.35	\$971,92224	-2518.47
2014-15	17725.26	92611.19	47775.05	2614.67	-4583.84	\$12,422.38	-7321.02
2013-14	20507.43	105703.15	55841.35	9976.85	2514.9	\$16,477.12	-534.47
2012-13	29754.58	112113.03	60788.17	3400.91	8764.69	\$25,118.12	14162.96
2011-12	30359.12	125856.23	65485.25	4068.57	5467.8	\$20,197.76	1418.66

Source- THOMSON REUTERS KNOWLEDGE/ COMPUTED FROM ANNUAL REPORTS

TABLE 19: RATIO OF PREMIER

YEAR	WC to TA	RE to TA	OE to TA	MC to TL	SALES to TA
2015-16	0.062178	-0.05069	-0.02608	17.3764	0.103506
2014-15	0.028233	-0.0495	-0.07905	0.260018	0.191394
2013-14	0.094386	0.023792	-0.00506	0.29507	0.19401
2012-13	0.030335	0.078177	0.126328	0.413207	0.265398
2011-12	0.032327	0.043445	0.011272	0.308432	0.241221

SOURCE: COMPUTED

MARUTI SUZUKI

One of the companies selected for the study is Maruti Suzuki. The financial data namely sales, assets liabilities, working capital, retained earnings and market value of equity of Maruti Suzuki for the study period are portrayed in Table 20.

TABLE 20: FINANCIAL DATA OF MARUTI SUZUKI

Year	Sales	Assets	Liabilities	Working capital	Retained earnings	Market value of equity	EBIT
2015-16	63866.9	41940	12055.8	-3193.2	295.56	\$112,373.78	6535
2014-15	53768.52	33551.03	9846.78	-626.68	289.43	\$109,035.80	4868.2
2013-14	47822.77	30535.78	9621.7	6053.22	278.33	\$58,210.83	3658.5
2012-13	48114.71	26688	8155.3	4218.5	239.22	\$38,515.21	2991
2011-12	38614.12	22302.2	8109.1	4532.34	204.21	\$40,487.86	2146.23

Source- THOMSON REUTERS KNOWLEDGE/ COMPUTED FROM ANNUAL REPORTS

TABLE 21: RATIOS OF MARUTI SUZUKI

YEAR	WC to TA	RE to TA	OE to TA	MC to TL	SALES to TA
2015-16	-0.07614	0.007047	0.155818	9.321139	1.522816
2014-15	-0.01868	0.008627	0.145098	11.07324	1.602589
2013-14	0.198234	0.009115	0.11981	6.049952	1.566122
2012-13	0.158067	0.008964	0.112073	4.722721	1.802859
2011-12	0.203224	0.009156	0.096234	4.992892	1.731404

SOURCE: COMPUTED

Z SCORES OF SELECTED AUTOMOBILE COMPANIES

Table 22 exhibits the Z score of all the selected companies for the study period of five years (2011-12 to 2015-16).

TABLE 22: Z SCORES OF SELECTED AUTOMOBILE COMPANIES

COMPANIES	2015-16	2014-15	2013-14	2012-13	2011-12	AVERAGE
EICHER MOTORS LTD	11.05874	31.05978	15.04016	22.24414	23.00379	20.4010
TATA MOTORS	1.711314	2.10626	1.143063	1.832252	5.58543	02.4030
BAJAJ AUTO	15.59194	6.961125	6.156969	6.216652	5.629028	08.0400
HERO MOTO CORP	12.07626	11.97477	10.00738	8.075788	8.280507	10.8160
FORCE MOTORS	30.88939	19.12826	6.854658	6.476124	8.246596	14.2848
ASHOK LEYLAND	1.966793	1.615921	0.811324	1.513928	2.00087	01.5790
HINDUSTAN MOTORS	-5.45439	-3.15811	0.992403	1.493227	0.967202	-01.0300
SUNDARAM CLAYTON	7.40426	7.027253	3.714277	2.665462	2.644229	04.6868
PREMIER	10.44695	0.051122	0.500937	1.076053	0.563093	
MARUTI SUZUKI	7.548199	8.715023	5.842109	5.208562	5.301399	06.5170

IV. CONCLUSION

Based on the calculations of Z scores for the various selected companies for the study, it is clearly found that Hindustan Motors has a very less score (-1.03) in comparison to the scores of the other companies. According to Z score analysis, if the score is below 1.8, the bankruptcy is likely. The other company having the lesser score is Ashok Leyland (1.57) which is close to the score of chance of bankrupt. All other companies selected for the study are in a good position according to the Z score model.

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