

## **A Study on the Economic Health of Maruti Suzuki Ltd – An Application of Altman Z-score Model**

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### **ABSTRACT**

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Finance is the keystone of every organisation. It is essential to plan and manage fund at every step in the business. Cashflow in a business helps to ensure the efficient utilization of capital and available resources according to the principles of profitability, liquidity and solvency. A statement of financial performance is an accounting summary of a business which reveals the revenues, expenses and net incomes. Generally, a statement of financial performance is important to understand whether the business is profitable or not. It is a declaration to make further decision to expand and develop the business. This important factor kindles every researcher to analyse the financial performance of any industry. The study is a small effort to observe the performance of the automobile industry in which Maruti Suzuki India Limited has been chosen as the sample for the study as it is one of the major player in the automobile business sector. The study has been carried for a period of ten years from 2013-2022. The secondary data for the analyses has been collected from the moneycontrol.com database. To predict the financial performance and distress, a financial bankruptcy model of Altman's Z-score model has been applied.

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Keywords: Automobile industry, profitability, productivity and solvency.

### **INTRODUCTION**

Financial Statement analysis is the process of reviewing and analysing a company's financial statement to make better economic decisions to earn more profits in the future. These statements include the income statement, balance sheet, and statement of cash flow. Financial statement may be said to be the circulatory system of the economic body, making possible the needed cooperation between many units of activity. Maruti Suzuki India Ltd has been involved in various businesses like manufacturing, sales and purchasing of motor

vehicles and parts of automobile. Maruthi Suzuki India Ltd has successfully developed different financial strategies without making huge investment. Finance plays a key role in making decisions for domestic vehicle purchases. Financial management includes planning, organizing, directing and controlling the financial activities such as procurement and utilisation of funds of the enterprise. It means applying general management principles to financial resources of the enterprise. Financial management is generally concerned with procurement, allocation and control of financial resources of a concern. Financial planning helps in making growth and expansion programmes which helps in long run survival of the company, it helps in reducing uncertainty with regards to changing market trends which can be faced easily through enough funds and it helps in reducing the uncertainty which can be a hindrance to growth of the company. This helps in ensuring stability and profitability in concern. A sound financial structure is said to be one which aims at maximizing shareholders return with minimum risk.

## COMPANY PROFILE

Maruti Suzuki India Limited is a holding company established in 1981. A Joint venture agreement was signed between the government of India and Suzuki Motor Corporation (SMC), Japan in 1982. Maruti Suzuki India Limited, formerly known as Maruti Udyog Limited, is an Indian automobile manufacturer, based in New Delhi. It was founded in 1981 and owned by Government of India until 2003 and after it was sold to the Japanese automakers Suzuki Motor Corporation. The Company is engaged in the manufacture, purchase and sales of motor vehicles, components and spare parts(automobile). The other activities of the Company comprise the facilitation of pre-owned car sales, fleet management and car financing. As of February 2022 Maruthi Suzuki has a market share of 44.2 per cent in the Indian passenger car market.

## LITERATURE REVIEW

Reviews are relevant to automobile industries as well as articles in journals and earlier studies which focused on financial performance of companies under various industries.

**Harsheen Gill (2022)**, An analysis of financial equity and predicting the bankrupt risk of Indian cement companies. The study covers a period of five years from 2016 - 2021. The data has been analyzed using Motaal's Liquidity Assessment Test and Spearman's Rank Coefficient of Correlation. This study makes an attempt to examine the link between the sample businesses' liquidity and profitability, as well as the possibility of bankruptcy. Among the ten selected cement companies, UltraTech Cement, Shree Cement, Ambuja Cement, ACC, J.K. Cement, Ramco, Birla Corporation, JK Lakshmi, Rain Industries, and India Cement. Shree Cement has the best liquidity ratio of the ten firms analysed. Other firms need to boost their liquidity. **Dr. R Saroja Devi and et al. (2022)**, The Z score method has been applied in the study to assess the financial stability of Sun pharmaceutical Company. This study spanned a ten year period from 2012 to 2021. The Z score of Sun pharmaceutical company shows that the company has been in difficult position during 2014 to 2018 (0.285 to 0.523). From 2019 to 2021 the Z - score of Sun pharmaceuticals raised from 2.037 to 5.345, which is more than 3.00, indicating that the financial condition is extremely excellent and there has been a minimal risk of bankruptcy. **Dr. Chellasamy and et al. (2021)** Prediction of financial distress using Altman Z score a study of selected footwear companies in India. The selected footwear companies are Relaxo Footwear, Bata India, Mirza International, Khadim's and Liberty Footwear. This study have analysed the financial distress of selected footwear companies for a

five years (2016 - 2020). The results reveal that all the select companies have very good financial position in last five years except Liberty footwear. **Apoorva D.V (2019)** Application of Altmans Z score model on selected Indian companies to predict Bankruptcy, this article speaks about the bankruptcy of seven Indian companies listed on the Bombay stock. The study concludes Altman Z- score model applied to identify the potential financial level of the listed companies has been 85 per cent accurate and effective for three years prior to the occurrence of the event of bankrupt. The author suggests that Altman Z- score can be used widely by the stakeholders of the company to protect the interest of the investors. **Arini and et al. (2018)** Analysis of the method of Altmans Z- score to predict the potential of bankruptcy in Advertising, printing and Media Companies Listed on the IDX. The Altman Z- score model has been used to show the potential for bankruptcy in Advertising, Printing and Media companies listed on Indonesia stock exchange from 2011-12 to 2014-15. The data source of this study has been collected from the source of secondary data. The data is collected from the Balance sheet and Income Statement. The result obtained shows that of nine companies in 2012 there was one company that was predicted to go bankrupt, two companies in grey area and six companies were not bankrupt. In 2013, three companies were predicted to go bankrupt and six companies did not go bankrupt. In 2014 there was one company predicted to go bankrupt, one company in a grey area and seven companies not go bankrupt. In 2015 they were three companies that were predicted to go bankrupt, one company in the grey area and five companies did not go bankrupt. It has been concluded that the bankrupt position of the select companies in the study found to be in a fluctuation during the study period. **M.R.Ali and et al. (2016)** In this study the Altmans Z –score, have applied for Publicly traded manufacturing company to assess the financial soundness or efficiency of textile industry . For this study 18 companies of the textile industry in Bangladesh have been selected and the secondary data from annual report of these companies have been taken into account. The study has found that 28 per cent companies of the sample have fallen on safe zone but 22 per cent companies of the sample have fallen on grey zone means these companies have good chance of being financially distress within the next two years of operation. 50per cent companies of the sample companies have fallen on distress zone. But the average Z score of textile industry in Bangladesh has fall on gray zone and the overall financial performance of textile industry in Bangladesh has not been satisfactory. **Partha Ghosh (2013)**, A case study of Dunlop India Ltd, Altmans Z- score model has been used to investigate the risk of financial distress of Dunlop India Ltd, from 2007-08 to 2011-12. This study has been analyzed and interpreted with available information through usage of secondary data. The study has been carried out for five years from 2007-08 to 2011-12. The collected data was analysed with five ratios i.e. Working capital, Retained earnings, EBIT, Market value of equity and Sales to total assets. The results reveal that the company has not been satisfied for past few years of its performance. Z- score of the firm was not in healthy zone during the study period. During 2009-2010 the company undertook necessary steps to overcome the bankruptcy zone to grey area. But during 2010-11 the Z score moved towards bankruptcy zone which may prove that company is not managed properly.

## OBJECTIVES OF THE STUDY

The following the objectives of the study:

- To examine the financial soundness of the company by the application of the Altman's Z-score model.
- To compare the performance of the company between the select period of the study.

## RESEARCH METHODOLOGY

This study is based on secondary data. The data has been collected from various sources like journals, internet, and magazines. Financial positions of the company like liquidity and profitability were collected from the balance sheet and income statement of the Maruti Suzuki India Limited.

The following model has been applied in the study to find the financial health of the company.

### ALTMAN'S Z- SCORE ANALYSIS

The Edward Altman has derived a multivariate model to predict the financial stability of the companies by using multiple discriminate analyses. The model is used to predict the bankruptcy of the companies. Altman has taken into consideration five key performance ratios to calculate the Z-score which give the view of companies financial soundness which has been applied in the study. The formula for Z score analysis is as follows:

$$\text{Zscore} = 1.2A + 1.4B + 3.3C + 0.6D + 1.0E$$

Where

A=working capital to total assets(stand for liquidity measure or short term credibility of the business)

B=retained earnings to total assets(stand for measure of reinvested earning or shows the company's dependence on debt for funding of capital. If the ratio is more, the dependency on borrowings is more and vice versa)

C=Earnings before interest and taxes to total assets(stand for profitability measure)

D=market value of equity to total liabilities(stand for Leverage measure or measures how much the market value will decrease prior to the liabilities becoming more than assets. In the case of private companies, the book value of the equity will be taken for this purpose)

E=sales to total assets(stand for Sales generating ability of the firm and shows the efficiency of the company in using its assets)

Z = overall index.

### Implications of Z –Score Value:

- (i)  $Z < 1.81$ : indicates poor financial performance and the firm is considered into bankrupt class or sick class or in distress zone
- (ii)  $1.81 > Z < 2.99$ : indicates grey area which is consisting of both bankrupt and non bankrupt firms.
- (iii)  $Z > 2.99$ : indicates good financial performance and the firm is considered into non bankrupt or non sick class and safer zone.

## RESULTS AND DISCUSSION

**Table 1 Altman Z-score Analysis – Maruti Suzuki Ltd (2012-2022) (Rs. In .Crs)**

FY	Working capital	Retained Earnings	EBIT	Market value of equity	Total sales	Total Liabilities	Total Assets	Z-Score
2022	-232.50	53935.00	5701.20	124.68	83798.10	73394.30	73394.30	2.42
2021	2420.00	51215.80	5345.30	140.02	66562.10	70067.40	70067.40	2.27
2020	-2867.40	48286.00	7302.60	187.06	71690.40	62552.10	62552.10	2.56
2019	-1788.70	45990.50	10999.30	248.30	83026.50	62931.80	62931.80	2.89
2018	-7520.70	41606.30	12061.50	255.62	78104.80	59370.10	59370.10	2.82
2017	-4450.40	36280.10	10351.70	243.32	66909.40	51250.60	51250.60	2.86
2016	-3193.20	29733.20	8884.40	177.58	56441.20	41940.00	41940.00	2.95
2015	-625.10	23553.20	6712.90	123.00	48605.53	33551.00	33551.00	3.07
2014	6097.60	20827.00	5095.90	92.13	42644.76	30535.70	30535.70	3.14
2013	4218.50	18578.90	4229.60	79.19	42612.56	26734.20	26734.20	3.28

Source : moneycontrol.com

## INTERPRETATION

1. The ratio of Working Capital to Total Assets has been found to be increasing from 2013 to 2014 (From Rs.4218.50 Crs to Rs.6097.60 Crs). It is interesting to note that the ratio have been in the negative values from 2015-2020 which states that current liabilities exceed the current assets. In the year 2021 it has been observed that the ratio stood at Rs. 2420 Crs and in 2022 again there has been the negative value. The negative position of the working capital during the study period shows that the company has made large purchase which may be invested in more stock, new product extension and equipments. The above analysis shows that the company has no short term creditability and liquidity.

2. The ratio of Retained Earnings to total assets has been found to be in an increasing trend during the study period. The condition states that how efficient the company is using its retained earnings to accumulate more assets. The increasing trend of the ratio shows that the company grows economically wise and mobilizing more and more assets to the company.

3.The ratio of EBIT to Total Assets has been found to be increasing from 2013 to 2018 ( 4229.60 Crs to 12061.50 Crs) this indicates the company has low debt levels and higher amount of cash and it shows how effectively a company uses its assets to generate earnings. From 2019 to 2022 the ratio has been declined ( From Rs.10999.30 Crs to 5701.20 Crs) it shows that company is not making as much money on its

operations. The above analysis shows that the company has low return and the profitability has been slowly started to decline.

4. The ratio of Market value of Equity to Total liability recorded a mixed trend during the period of study. It has been found that market value of equity to be increasing from 2013 to 2018 ( Rs. 79.19 Crs to Rs. 255.62 Crs) and have started to decline from 2019. This shows the leverage position of the company is not stable. The borrowed funds are not efficiently used to generate more profit and to pay the interest to the borrowed fund.

5. The ratio of Sales to Total Assets seems to be increasing from 2013 to 2022 ( From Rs. 42612.56 Crs to Rs. 83798.10 Crs) it indicates that sales are increased during the study period and shows how well the company is using its assets to earn profit. As per the Altman's observation, a firm which has a very high turnover ratio can never fall sick.

6. The over all performance of the company during the study period 2013 to 2022 states that from 2013 to 2015 the Z-score is more than 2.99 which indicates the firm would have been in good profit earning position and shows the company been in safer zone. The Z-score below 2.99 (from 2016 to 2022), which indicates the company has been on the grey area which states the company may or may not bankrupt till a short duration.

## CONCLUSION

The automobile industry in India is the fourth largest in the world. The financial performance of Maruthi Suzuki India Ltd seems to be non- satisfactory during the study period from 2013 to 2022. The fall in the working capital during the study period shows that the company has made large purchases and low liquidity position. The increasing trend of the Retained Earnings to total assets ratio shows that the company grows economically. The ratio of EBIT to Total Assets shows that the company has low return and the profitability has been slowly started to decline which states the performance of the company is not effective in the utilization of assets to generate earnings. Ratio of Market value of Equity to Total liability shows the borrowed funds are not efficiently used to generate more profit and to pay the interest to the borrowed fund. The ratio of Sales to Total Assets reveals that sales are increased during the study period and shows how well the company is using its assets to earn profit. The Z-score of the company during the year 2013 to 2015 states the financial position are to be fair and good and from 2016-2022 the company has been pushed in the gray area and it could be suggested that the management should be more careful in decision making with the right turnaround strategy to protect the company from any future bankrupts.

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