ASSESSING FINANCIAL HEALTH OF SELECTED FAST MOVING CONSUMER GOODS COMPANIES IN INDIA: COMPARISON OF THE Z-SCORE AND SPRINGATE S-SCORE MODELS'

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Abstract: The financial health of businesses may also be gauged by comparable factors to assess the viability of a company as a going concern. For instance, if a company has revenue coming in and cash in the bank, yet is expending its resources on new investments in production equipment, officer space, new hires, and other business services, it may raise questions about the long-term financial health and survivability of the company. If more money is spent that does not contribute to the overall stability and potential to growth of the business, it can lead to a decline that makes it difficult to pay regular expenses such as utilities and employee salaries. This may force businesses to freeze or cut salaries in order to give the company the fiscal allowance to continue its operations. Bankruptcy prediction gives an overview to management and investors about actual condition of the company briefly and clearly, because the poor condition does not happen all of a sudden it can be seen regularly. Nowadays, various models are used for bankruptcy prediction. The purpose of this study is to determine the selected FMCG companies' health level which is listed in BSE and compare the results obtained firm applying the Altman Z-score and springate S-score model for firm bankruptcy prediction. Thus, the data collected during the period 2005-2006 to 2016-2017 were tested. The results suggest that there is a significant difference between the two models in bankruptcy prediction. Moreover, the Z-score model is more conservative in bankruptcy prediction than the springate S-score model.

Keywords: Financial health, bankruptcy Z-score Model, Springate S-score, Fast Moving Consumer Goods (FMCG).

I.INTRODUCTION

The FMCG industry has emerged as one of the largest sectors in the Indian economy by registering an astonishing double-digit growth rate in sales in the past couple of years. It is the fourth largest sector in the economy and it is an important contributor to India's GDP which creates employment for more than three million people in downstream activities. FMCG products are of relatively low cost than any other products and they offer a quick turnover to the manufacturer. FMCG is probably, a typical case of low margin and high volume business. FMCG generally includes a wide range of frequently purchased consumer products, its principal constituents are Household Care, Personal Care and Food & Beverages. The total FMCG market is in excess of Rs. 85,000 Crores.

Theoretical background and the development of hypothesis

As an emerging economy India is constantly attracting many foreign companies since 1991 (after adoption of LPG). For which Indian economy has seen a rapid growth in its' economy and corporate sector. Despite the fact corporate sector is doing well every investor are interested in knowing the exact financial position of the company, so that they can take rational decision and avoid suffering from inherent credit risk. Especially this is also very necessary for banking companies and financial institution to be more cautious while financing a corporate, as whenever companies become bankrupt it causes a huge loss for them and also for whole economy. Financial distress or bankruptcy of corporate means an inability of the companies to pay its liabilities. Whenever a company goes for bankruptcy it causes banks, suppliers, shareholder a huge loss. That's why many investors are interested to predict the exact financial position and also the chances of bankruptcy in near future. Moreover the corporate failure is not a sudden incident it is a long term phenomena. The earlier the company will be aware about their position the better decision they can take to turn around the company. So for the companies also it is important to check their financial health regularly to avoid sudden corporate failure.

In this part, an attempt has been made to have an insight into the financial stability and operational health of the selected FMCG companies in India. In this direction, a variety of studies have been conducted over a period by **Basman Al Dalayeen(2017),Cui Zhe, Zhou Jiahui and Wang Guohua(2017), Geethalakshmi A and Jothi K, (2017), John MacCarthy(2017),Manojkumar Vishnubhai Patel, (2017), Priyanka R Gowda and Dr. Manoj Kumara N V., (March 2017), Samyuktha Paliathuparambil Suresh and Santhosh Nithyananda, (2017), Tamara Stojanovic and Ljiljana Drinic, (2017), Varsha Gupta, (2017). Ashok K Sar, (2018). Mrthy, Madhavi Nara, Rajani and Maddila Gurukamal,(2018).** The objective of this part is to predict the financial health and viability of the selected FMCG companies in India with an objective to improve its operational efficiency and effectiveness, productivity and profitability.

II.STATEMENT OF THE PROBLEM

Problem of bankruptcy can be caused by poor management, improper sales forecasting, inexperience in management, fraud, changes in tastes and preferences of customers and rapid technological advance in the field of business and other variables. So, there are many forms of business failures. The first one is economic failure. This occurs when an organization is not able to generate profit/revenue that would be sufficient enough to meet creditor's obligations and various costs/expenses associated with the operations of the firm. Financial failure may take the form of bankruptcy or insolvency. Insolvency refers to a situation where a firm is unable to meet its current obligations as and when they fall due. These happen when the current liability exceeds the current assets. Bankruptcy, on the other hand, refers to a situation where the total liabilities exceed the total assets. Financial statement is normally used to assess the performance of the firm in terms of profitability and solvency. There is a need for predicting financial failure on time for taking corrective measures in relation to investment and lending. In this study, an attempt has been made to have an insight into assessment of financial health of selected FMCG companies in India.

III.OBJECTIVES

The main objective of this research paper is to analyze the financial health of the selected Fast Moving Consumer Goods companies in India by using Z-score and Springate S-score model.

IV.RESEARCH METHODOLOGY

The study is mainly based on the secondary data. The major source of data analysed and interpreted in this study is related to all those companies selected from "PROWESS" database which is the most reliable on the empowered corporate database of Centre for Monitoring Indian Economy (CMIE). The other relevant data have been collected from BSE websites, money control.com, internet, books and magazines. The Indian FMCG companies which satisfied the following criteria have been selected and included in the sample. The criteria are:

- Top ten FMCG companies in India
- Companies which are listed were started in Bombay stock exchange.
- Companies which have been continuously functioning till the end of the study period.
- Companies which were started before 1999-2000.
- Companies which did not undergo merger or demerger during study period.
- Companies which provide financial data for the study period.

Top ten companies have been chosen for study with market capitalisation for the year 2014 as the parameter. The selected top ten FMCG companies in India on the basis of market capitalization along with profit and sales are given in the Table 1. The period from 2005-2006 to 2016-2017 is considered for the study. The collected data were analyzed by using Microsoft Excel software.

V.HYPOTHESIS OF THE STUDY

In order to predict the bankruptcy of the sample companies in this research, the study used two models Altman Z –score and Springate S-score then compared the predicted results of these two models with each other. The following hypothesis is framed and tested

H_0 - There is a meaningful difference between the results of the two models of Altman Z score and Springate S-score in predicting the bankruptcy of a company.
H_0 - Altman Z –Score act more conservatively in bankruptcy prediction than Springate S-Score.

Altman Z-score

The Z-score is a linear combination of four or five common business ratios, weighted by co-efficient. The co-efficient were estimated by identifying a set of firms which had declared bankruptcy and then collecting a matched sample of firms which had survived, with matching by industry and approximate size (assets). Altman applied the statistical method of discriminant analysis to a dataset of publicly held manufacturers. The estimation was originally based on data from publicly held manufacturers, but has since been re-estimated based on other datasets for private manufacturing, non-manufacturing and service companies. Altman's (1968) Z score model may be used to predict the profitability that a firm will go bankrupt in the near future. The model in its original version is:

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

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 Equity/total Liabilities; X_5= Sales/ total Assets

The Z score is then analysed using the following Standard:

Altman Z Score Guidelines for healthy Zone

Altman Z score Standard	Meaning of cut off points
Below 1.81	Bankrupt or in Financial Distress
1.81-2.99	Healthy Zone
2.99 and Above	Too Healthy Zone

Sources: Altman (1968)

Springate S- Score

Springate model was the first model to be introduced by **Gordon LV Springate (1978)**. Basically, this model is a revolution of the Altman model developed by Multiple Discriminant Analysis (MDA). Springate model development process initially used 19 financial ratios that have been frequently used. However, after testing, Springate finally chose four financial ratios to be used to determine whether the company is said to be either a healthy company or potentially insolvent. The model uses four variables: working capital, Earnings before interest and taxes, sales Scaled by total assets and Net profit before taxes scaled by current liabilities. The S-Score was computed using the formula:

$$S=1.03A+3.07B+0.66C+0.4D$$

The S-Score is realized by computing the following

A=Working capital/total assets; B=Earnings before interest and taxes/total assets; C= Profit before tax/total current liabilities; D= Sales/total assets

The S score is then analysed using the following standard:

Springate S-score guidelines for healthy Zone

S-score standard	Meaning of cut off points
Below 0.862	Bankrupt or in Financial Distress
0.862-1.062	Healthy Zone
1.062 and above	Too healthy zone

Sources: Springate (1978)

VI.RESULT AND DISCUSSION

Altman Z - Score Model

The Z-Score with respect to the selected companies for the study period has been computed and presented in Table 2. It is imperative from the table that Z-Score for ITC Ltd is not less than 1.81 during the study period. It shows that the financial health of the company during the study period had never gone bankruptcy. This shows the better financial performance of ITC Ltd during the study period. It is imperative from the analysis that the Z-score for Hindustan Unilever Ltd is more than 3.00 during the study period. It implies that the company was in too healthy zone. Further, it is evident from the analysis that the Z-score of the Hindustan Unilever Ltd witnessed very good financial health during the study period as the scores are range from 3.33 to 6.76. It may be attributed to the positive changes in the net operating profit from increased sales volume and market capitalisation of equity, maintaining sufficient working capital and effective utilisation of capacity. It is clear from the analysis that the Z-Score for Colgate-Palmolive Ltd and Procter and Gamble India Ltd is not less than 1.81 during the study period. It is also revealed that the financial health lies between healthy and too healthy zone. This shows the better financial performance of both companies during the study period. It is apparent from the analysis that the Z-Score for Dabur India Ltd and Godrej Consumer Products Ltd during the study period is never in bankruptcy zone. This displays better financial performance of both the companies during the study period. It is clear that the Z-Score of Marico India Ltd are more than 7.0 during the entire study period and it shows that the financial health of the company is very good. It is evident from the analysis that the Z-Score for Emami Ltd during the study period is in healthy and too healthy zone except 2005-2006 and 2008-2009. This shows dismal performance of the company during the year 2005-2006 and 2008-2009. This can be attributed to trading under owing to excess working capital, failed to achieve adequate sales, under utilization of capacity etc. It is clear from the analysis that Z-Score for the Nestle India Ltd is not less than 1.81 during the study period. It shows that the financial health of Nestle India Ltd during the study period lies between healthy and too healthy zone. Britannia Industries Ltd was in a grey area, which means a danger of insolvency in the years 2006-2007 and 2008-2009. However, they improved and came out of the danger zone in 2010 and continue to be healthy with Z score of more than 1.81. The company is showing an increasing trend in the ratios as to short-term repayment capacity, efficiency in retaining earnings, generating EBIT, long-term solvency and generating positive sales revenue by making use of the assets of the company.

The study examined the appropriateness of Z-Score models in assessing corporate distress using the financial statements published by the selected FMCG companies in India. The study finds that Altman's Z-Score model shows a higher degree of accuracy in predicting the financial health of the companies.

Springate S-Score

The S-Score with respect to each company had been computed and presented in Table 3. It is imperative from the table that S-Score for ITC Ltd and Hindustan Unilever Ltd is more than 1.062. It implies that both the companies were in too healthy zone. There is no possibility of bankruptcy in future. This shows better financial performance of both ITC Ltd and Hindustan Unilever Ltd. It is clear from the analysis that the S-Score for Colgate -Palmolive Ltd and Procter and Gamble India Ltd is more than 1.062 during the study period. It is implies that both companies was in too healthy zone. The financial health of these companies is very strong through the 12 years. It is seen from the analysis that the S-Score of Dabur India Ltd and Marico Ltd is more than 1.062 during the entire period of study and it can be concluded that the financial position of both Dabur India Ltd and Marico Ltd lies under too healthy zone. It is transparent from the analysis that the S-Score of Godrej Consumer Products Ltd and Marico Ltd is more than 1.062 during the study period except in the year 2013-2014. It is also revealed that the financial health of the company lies between healthy and too healthy zone during the study period. This shows better financial performance of both Godrej Consumer Products Ltd and Marico Ltd. It is clear from the analysis that the S-Score of Emami Ltd is not less than 0.862 during the study period and is never in bankruptcy zone. The S-score ranged from 1.37 in 2008-2009 to 3.42 in 2015-2016. It is also revealed that the financial health of the company lies under too healthy zone during the study period. This shows sound financial positions of Emami Ltd. It is transparent from the analysis that the S-Score of Nestle India Ltd is more than 1.062 during the study period and it was in too healthy zone throughout the study period. This shows better financial performance of the company. It is imperative from the analysis that the S-Score of Britannia Industries Ltd is not less than the 0.862 during the study period and there is no possibility of bankruptcy in future. The highest score obtained was 3.32 in 2014-2015 and the lowest score was 2.02 in 2005-2006. The analysis of Britannia Industries Ltd shows high profitable and financial soundness is high and no chance of bankruptcy in future.

CONCLUSION

Financial health plays a significant role in the successful functioning of a firm. Poor financial health threatens the very survival and leads to business failure. The analysis of operational efficiency using Altman Z-Score reveals that the financial health of all selected FMCG companies in India is good during the study period. The analysis of operational efficiency using another model Springate S-Score shows that all the selected FMCG companies is good performance during the study period. It can be observed that the results predicting the financial status using both the models shows that the selected FMCG companies in India are not being bankrupt is analyzed. The study proves that both models show a higher degree of accuracy in predicting the financial distress. The estimated discriminant function could be of great use for the management in attaining financial health. To conclude, the analysis of financial health using Altman Z-Score and Springate S-Score reveals that except a few years, financial health was good during the period of study.

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TABLES:

Table 1

List of sample companies included in the present study

S.No	Name of thibjme company	Sales (Rs. in crore)	Profit (Rs. in crore)	Market capitalisation (Rs. in crore)
1.	ITC LTD	29,901	7,418	2,67,930
2.	Hindustan Unilever Limited	28,019	3,867	1,38,092
3.	Nestle India Ltd	9,101	1,117	47,258
4.	Dabur India Ltd	4,349	590	33,561
5.	Godrej Consumer Products Limited (GCPL)	3,581	510	30,147
6.	Colgate-Palmolive India Ltd	3,159	496	19,400
7.	Marico India Ltd	1,069	141	16,315
8.	Procter and Gamble India ltd	1700	207	12,561
9.	Britannia Industries Ltd	5,615	233	10,611
10.	Emami Ltd	1,627	221	10,351

Table 2
Altman Z –Score Model for selected FMCG Companies in India

$[Z = 1.2(X_1) +1.4(X_2) +3.3(X_3) +0.6(X_4) +1.0(X_5)]$

Year	ITC	Hindustan	Colgate	P&G	Dabur	Godrej	Marico	Emami	Nestle	Britanna
2005-2006	2.08	3.33	3.72	3.36	3.27	5.98	8.82	1.65	5.47	1.84
2006-2007	2.98	3.49	3.72	2.54	4.32	4.35	13.45	2.96	5.33	1.74
2007-2008	2.69	4.03	4.06	2.55	3.77	3.97	12.46	2.59	5.63	1.95
2008-2009	2.18	4.94	4.42	2.48	3.20	3.39	13.71	1.68	5.78	1.79
2009-2010	2.29	3.86	5.04	2.31	3.43	2.94	12.68	2.24	5.70	2.61
2010-2011	2.57	3.95	3.32	2.04	3.31	2.84	9.42	2.51	5.36	2.65
2011-2012	2.80	4.38	3.37	1.93	2.98	2.52	8.27	2.64	3.54	2.74
2012-2013	3.03	5.43	3.15	3.02	2.93	2.25	7.31	2.99	3.41	2.56
2013-2014	2.97	5.45	2.89	3.33	2.95	2.21	8.55	3.03	3.05	2.36
2014-2015	3.29	6.55	3.60	3.44	2.99	2.21	8.80	4.08	2.60	2.83
2015-2016	2.59	6.75	2.95	3.67	2.71	2.26	12.30	2.16	3.03	2.33
2016-2017	2.69	6.76	2.55	5.26	2.34	2.14	13.15	2.31	2.83	2.25

Source: Computed

Table 3
Springate S –Score Model for selected FMCG Companies in India

Z= 1.03A+3.07B+0.66C+0.4D

Year	ITC	Hindusan	Colgate	P&G	Dabur	Godrej	Marico	Emami	Nestle	Britanna
2005-2006	1.93	1.76	2.01	2.64	2.15	3.26	1.81	1.71	2.81	2.02
2006-2007	1.89	1.89	1.89	1.43	2.54	2.26	4.53	2.24	2.74	2.21
2007-2008	1.88	2.12	2.45	1.62	2.28	2.15	6.06	1.96	2.84	2.32
2008-2009	1.84	2.68	2.75	1.65	2.12	2.04	7.46	1.37	3.06	2.25
2009-2010	1.86	2.00	3.35	1.43	2.18	1.93	6.22	1.78	2.97	3.19
2010-2011	2.00	1.97	2.15	1.12	1.89	1.95	4.37	1.97	2.88	3.32
2011-2012	2.17	2.14	2.16	1.12	1.72	1.72	4.01	1.91	1.96	3.27
2012-2013	2.82	2.62	1.98	1.85	1.73	1.09	3.54	2.20	2.03	3.18
2013-2014	2.97	2.46	1.80	2.26	1.74	1.03	3.18	2.31	1.86	2.78
2014-2015	2.77	3.05	2.14	2.26	2.00	1.15	1.85	3.42	1.52	3.32
2015-2016	3.23	2.94	1.98	2.63	2.02	1.42	2.46	1.64	1.92	2.64
2016-2017	3.14	2.91	1.76	3.55	1.86	1.26	2.83	1.95	1.73	2.84

Source: Computed