

A STUDY ON FINANCIAL PERFORMANCE ANALYSIS OF SELECTED MANUFACTURING FIRMS IN INDIA

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Abstract

The purpose of this study is to examine the relation between the debt and profitability ratios of the companies that operate on the BSE manufacturing industry by using Panel Regression Analysis. The data of the 36 companies within manufacturing industry on the BSE between the years 2007 and 2017 were used. The aim of the study is the liquidity and profitability position of selected manufacturing companies in India and show whether the mean difference between profitability ratios and its firms size. In addition, it has been determined in the study that the return on investment, the return on assets and the current ratios affect the leverage ratio negatively while the active growth, the return on equity, the earnings and the cash ratios per share affect the leverage ratios positively.

Key Words: Profitability, Financial Performance, Liquidity, Manufacturing Firms, Leverage.

Introduction

Manufacturing industry is one of the fastest growing industry globally, especially in India. The growth of manufacturing sector generally follows the economic growth of a particular country. The economic cycle growth of any country is a cyclic fluctuation process due to various dynamic conditions of the country and the world. An organization produces the manufacturing product with high efficiency and quality, and fulfils the customer requirements in a short span of time. Good business organizations will not be affected by the economic fluctuations of the country due to delivering the products to the customer superior than competitors in all aspects of the manufacturing product. However, the customer demand is increasing every instance that influences the speed of the delivery, quality and cost, which plays vital role in the present global market. Hence, getting a competitive edge in the present global market is very difficult task for the manufacturing organizations have reported that the important factor that impacts on any organization business is how the organization is improving simultaneously both in terms of quality and productivity on continuous basis. In the early 1990's, economic liberalization was started in India, which opened Indian market to the global players. During the protected period of twentieth century, Indian manufacturing industry was not concentrating on productivity, quality and cost of the products except the production volumes. After the economic liberalization, global automobile players started their units in India. Many varieties of products are available to the customer in the Indian market. Hence the customer started looking for more quality with low cost. In the beginning of globalization, the global manufacturing players were superior to Indian manufacturing players with respect to quality, cost and productivity.

Need for the Study

The contribution of the manufacturing sector to GDP just after India gained independence was not substantial. During 1950-51, the manufacturing sector in India contributed only 8.98% to the GDP. However, by 1965-66, it had increased to 14.23%, at the start of 1980 this figure further increased to 16.18% but it remained constant in that decade until 1990-91. This slight dip stems from the growth of the service sector and its increased contribution to the GDP of the country. During the fiscal year 2014 -15 the manufacturing sector contributed about 16% to the GDP. The purpose of this study is to examine the relation between the debt and profitability ratios of the companies that operate on the BSE manufacturing industry by using Panel Regression Analysis. The data of the 36 companies within manufacturing industry on the BSE between the years 2007 and 2017 were used. Furthermore, the variables

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such as asset growth ratio, return on asset, current ratio, leverage ratio, cash rate, new borrowing rates, total financial liability/total liability ratio, return on equity, investment and earnings have been studied. It has been observed in the study that the active growth and the return on equity ratios affect the new borrowing variables positively while investment, current earnings per share ratios affect the new borrowing variables- negatively. In addition, it has been determined in the study that the return on investment, the return on assets and the current ratios affect the leverage ratio negatively while the active growth, the return on equity, the earnings and the cash ratios per share affect the leverage ratios positively. It has also been seen that the active return on assets and the earnings per share ratios affect the total financial liabilities/total liability ratios negatively while the asset growth ratios affect the total financial liabilities/total liabilities ratios positively.

Review of Literature

Sen and oruc (2009) investigated the efficiency of working capital management and its relationship with profitability in Istanbul Stock market Exchange (ISE). Their results showed that aggressive working capital management which represents by shorter CCC and less current ratio cause increasing in profitability. In sector's investigation, they revealed that there is a significant similarity among sectors with regard to the relationship between working capital management and profitability except for the chemistry sector. **Zariyawati et.al, (2009)** tried to pay attention to the relationship between profitability and working capital management in Bursa Malaysia. The result of using Pooled OLS regression indicated a negative relationship between working capital proxy and profitability which means that managers can increase profitability by decreasing the length of cash conversion period. **Gill, et al., (2011)** examined the effect of capital structure on profitability of the American service and manufacturing firms. The findings of this paper also show a positive relationship between short-term debt to total assets and profitability, long-term debt to total assets and profitability, and between total debt to total assets and profitability in the manufacturing industry. **Liaqat Ali (2011)** in his study examined the determinants of leverage of Indian textile firms using panel data analysis. The positive effect of firm size, tangibility and a negative effect of firm growth, and profitability, on leverage confirm the predictions of capital structure theories as well as previous research papers. The results of the present study have delivered some insights into the financing behavior of Indian textile firms. **Neha Mittal (2011)** had studied the determination of the capital structure choice of the selected Indian industries. It concluded that the main variables determining capital structure of industries in India were agency cost, assets structure, non-debt tax shield and size. The coefficients of these variables were significant at one percent and five percent levels. **Puwanenthiren Pratheepkanth (2011)** in his study on capital structure and financial performance of selected companies in Sri Lanka. He identified capital structure was most significant discipline of company's operations. The results shown the relationship between the capital structure and financial performance is negative association at -0.114. Co-efficient of determination is 0.013 which was reflecting the insignificant level of the Business Companies in Sri Lanka. Hence, Business companies mostly depend on the debt capital. Therefore, they have to pay interest expenses much. **Babalola (2012)** studied how an optimal capital structure can maximize performance of the selected firms. He observed that the optimal capital structure and their concerning maximum value of ROE may change over time as the firm's performance. **Mihaela Brindusa Tudose (2012)** in his study aimed at evolution of capital structure and firm performance and this study employed the approach of conceptual, theoretical and empirical. The study has pointed out the conceptual aspects was seen as there has been a relationship between capital structure and financial performance of the company and have triggered controversial debates in the sphere of finance. **Sajid Gul et.al, (2012)** provided further evidence of the capital structure theories pertaining to a developing country and tests the determinants of capital structure. The variables profitability and liquidity were found to have negative impact on debt ratio, while size and growth were positively correlated. Whereas, tangibility has direct

positive correlation with leverage in insurance sector but negative in banking sector. **Mehdi Mohammedzadeh et.al., (2013)**, in their study examined the relationship between the capital structure and the profitability of pharmaceutical companies in Iran. Results showed that there was significant negative relationship between the profitability and the capital structure which means that the pharmaceutical companies have established a Pecking Order Theory and the internal financing has led to more profitability.

Statement of the Problem

The development of industries depends on several factors such as finance, personnel, technology, quality of the product and marketing. Out of these, financial and operating aspects assume a significant role in determining the growth of industries. All of the company's operations virtually affect its need for cash. Most of the data covering operational areas are however outside the direct responsibility of the financial executive. Unless the top management appreciates the value of a good financial and operating analysis, there will be continuing problems for the financial executives to find the profitability position of the concern. In this context the researcher is interested in undertaking an analysis to find the financial performance of Manufacturing Industry. Hence, the present study entitled "a study on financial performance analysis of selected Manufacturing Firms in India" has been undertaken.

Objectives of the study

To examine the liquidity and profitability position of selected manufacturing companies in India and show whether the mean difference between profitability ratios and its firms size.

Methodology

Research Design

This study has focused on a cross-sectional research and involved both quantitative and qualitative approaches to data collection. Cross sectional survey design was used because it provided a systematic description of data that was factual and accurate.

Data Source

The research consists of pooled data and is both quantitative as well as qualitative.

Sample Design

The criterion for the sample selection has been followed by which the companies listed on NSE stock exchange of India and by the selection of S&P CNX Nifty 100 Index as in 31st March 2017. Thus, the final sample consists of 32 companies which is the nature of Non-Financial Manufacturing Companies, listed on the NSE and required financial and governance rating data is readily available. The study used simple random sampling and purposive techniques.

Period of the study:

The study confined the period of 10 years from 2007-2008 to 2016-2017

Tools for Analysis:

Ratio analysis, Descriptive statistics, Skewness, Kurtosis, Annual Growth Rate, Compound Annual Growth Rate, Correlation and Multiple regression analysis

Limitations

1. The study suffers from certain limitations. Study exclusively depends on the published financial data, so it is subject to all limitations that are inherent in the condensed published financial statements.
2. The Manufacturing industry selected has been taken from CMIE database. The study covers a period of only ten years from 2007 -2008 to 2016 - 2017.
3. The data collected is only for 32 companies and this might not be true representation of the population. This is a major limitation of the research.

Data Analysis and Interpretation

Hypothesis Testing – Profit Efficiency Ratios

The data have been further analysed to see whether the mean difference between profitability ratios and its firms size. For this purpose, the data have been analysed profitability ratios,

whether to find out any significant difference of profit efficiency ratio between integrated and non-integrated manufacturing companies with the help of Independent t test. The levene's F-test is computed to check the homogeneous of the group variables and results proved that significant the data is suitable for further analysis. It is evident from the Table 5.7 represent profit-efficiency ratios and their respective ratio's mean and standard deviation of integrated and non-integrated companies.

Gross profit ratio

From the table 1, it can be seen that, gross profit ratio concerns; non-integrated firms (6.384) has obtained the highest mean score as compared to integrated firm (4.130) The result indicates that non-integrated companies are performed well in terms of gross profit margin.

Null Hypothesis Ho: "There is no significant difference of gross profit ratio between integrated and non-integrated sugar companies".

In order to test the significant mean difference of gross profit ratio between integrated and non-integrated sugar companies, an independent t-tests have been applied and the result shown in Table 2. The Levene's F-test is assumed that the result is not significant ($F=0.111$, p value > 0.05), hence, the data were an equal variances assumed. Further, the result of t-test for equality of means found an insignificant difference ($t=-0.715$, p value > 0.05), thus null hypothesis is accepted. Hence, it can be concluded that there is no significant difference of gross profit ratio between integrated and non-integrated sugar companies.

Table 1 Profit-Efficiency Ratios - Mean and Standard Deviation of Integrated and Non-integrated Companies

Sl. No	Profit-Efficiency Ratio	Type	N	Mean	Std. Deviation	Std. Error Mean	Mean Difference
1	Gross Profit Ratio	Integrated	120	4.130	26.461	2.416	-2.254
		Non-Integrated	80	6.384	11.917	1.332	
2	Operating Profit Ratio	Integrated	120	12.704	18.526	1.691	-0.962
		Non-Integrated	80	13.665	8.811	0.985	
3	Net Profit Ratio	Integrated	120	-3.071	29.596	2.702	-3.563
		Non-Integrated	80	0.493	10.557	1.180	
4	Net Profit To Fixed Assets Ratio	Integrated	120	1.675	15.319	1.398	-1.948
		Non-Integrated	80	3.622	17.820	1.992	
5	Return on Investment	Integrated	120	-1.578	51.388	4.691	49.635
		Non-Integrated	80	51.213	506.173	56.592	
6	Return on Total Assets Ratio	Integrated	120	0.186	9.212	0.841	-1.388
		Non-Integrated	80	1.574	8.986	1.005	

Source: Computed

Operating Profit ratio

It is evident from the Table 1, it can be seen that, operating profit ratio concerns; non-integrated firms (13.665) has obtained the highest mean score as compared to integrated firm (12.704). The result indicates that non-integrated companies are performed well in terms of operating profit margin.

Null Hypothesis Ho: "There is no significant difference of operating profit ratio between integrated and non-integrated sugar companies".

In order to test the significant mean difference of operating profit ratio between integrated and non-integrated sugar companies, an independent t-tests have been applied and the result shown in Table 2. The Levene's F-test is assumed that the result is not significant ($F=0.390$, p value > 0.05), hence, the data were an equal variances assumed. Further, the result of t-test for equality of means found an insignificant difference ($t=-0.432$, p value > 0.05), thus null hypothesis is accepted. Hence, it can be concluded that there is no significant difference of operating profit ratio between integrated and non-integrated sugar companies.

Table 2 Profit-Efficiency Ratios - Mean Difference and Independent Samples 't' Test of Integrated and Non-Integrated Companies

Sl. No	Profit Efficiency Ratio	Assumptions	Levene's Test for Equality of Variances		t-test for Equality of Means			Remarks
			F	Sig.	t	df	Sig. (2-tailed)	
1	Gross Profit Ratio	Equal variances assumed	.111	.739	-.715	198.000	.476	Not Significant
		Equal variances not assumed			-.817	177.652	.415	
2	Operating Profit Ratio	Equal variances assumed	.390	.533	-.432	198.000	.666	Not Significant
		Equal variances not assumed			-.491	181.905	.624	
3	Net Profit Ratio	Equal variances assumed	.473	.493	-1.033	198.000	.303	Not Significant
		Equal variances not assumed			-1.209	159.979	.229	
4	Net Profit To Fixed Assets Ratio	Equal variances assumed	2.898	.090	-.825	198.000	.411	Not Significant
		Equal variances not assumed			-.800	151.595	.425	
5	Return on Investment	Equal variances assumed	4.070	.045	1.067	198.000	.287	Not Significant
		Equal variances not assumed			.874	80.087	.385	
6	Return on Total	Equal variances	1.052	.306	-1.054	198.000	.293	Not Significant

Assets Ratio	assumed						
	Equal variances not assumed			-1.059	172.324	.291	

Source: Computed

Net Profit ratio

It is evident from the table 1, it can be seen that, net profit ratio concerns; non-integrated firms (0.493) has obtained the highest mean score as compared to integrated firm (-3.071). The result indicates that non-integrated companies are performed well in terms of net profit margin.

Null Hypothesis Ho: "There is no significant difference of net profit ratio between integrated and non-integrated sugar companies".

In order to test the significant mean difference of net profit ratio between integrated and non-integrated sugar companies, an independent t-tests have been applied and the result shown in Table 2. The Levene's F-test is assumed that the result is not significant ($F=0.473$, p value > 0.05), hence, the data were an equal variances assumed. Further, the result of t-test for equality of means found an insignificant difference ($t=-1.033$, p value > 0.05), thus null hypothesis is accepted. Hence, it can be concluded that there is no significant difference of net profit ratio between integrated and non-integrated sugar companies.

Net Profit to Fixed Assets ratio

It is evident from the table 1, it can be seen that, net profit to fixed assets ratio concerns; non-integrated firms (3.622) has obtained the highest mean score as compared to non-integrated firm (1.675). The result indicates that non-integrated companies are performed well terms of net profit margin.

Null Hypothesis Ho: "There is no significant difference of net profit to fixed assets ratio between integrated and non-integrated sugar companies".

In order to test the significant mean difference of net profit to fixed assets ratio between integrated and non-integrated sugar companies, an independent t-tests have been applied and the result shown in Table 2. The Levene's F-test is assumed that the result is not significant ($F=2.898$, p value > 0.05), hence, the data were an equal variances assumed. Further, the result of t-test for equality of means found an insignificant difference ($t=-0.825$, p value > 0.05), thus null hypothesis is accepted. Hence, it can be concluded that there is no significant difference of net profit to fixed assets ratio between integrated and non-integrated sugar companies.

Return on Investment ratio

It is evident from the table 1, it can be seen that, return on investment ratio concerns; integrated firms (-1.587) has obtained the highest mean score as compared to non-integrated firm (-51.213). The result indicates that integrated companies are performed well but negative in terms of return on investment.

Null Hypothesis Ho: "There is no significant difference of return on investment ratio between integrated and non-integrated sugar companies".

In order to test the significant mean difference of return on investment ratio between integrated and non-integrated sugar companies, an independent t-tests have been applied and the result shown in Table 2. The Levene's F-test is assumed that the result is significant ($F=4.070$, p value < 0.05), hence, the data were an equal variance not assumed. Further, the result of t-test for equality of means found an insignificant difference ($t=-0.874$, p value > 0.05), thus null hypothesis is accepted. Hence, it can be concluded that there is no significant difference of return on investment ratio between integrated and non-integrated sugar companies.

Return on Total Assets ratio

It is evident from the Table 1, it can be seen that, return on investment ratio concerns; non-integrated firms (1.574) has obtained the highest mean score as compared to integrated firm (0.186). The result indicates that non-integrated companies are performed well in terms of return on total assets.

Null Hypothesis Ho: "There is no significant difference of return on assets ratio between integrated and non-integrated sugar companies".

In order to test the significant mean difference of return on assets ratio between integrated and non-integrated sugar companies, an independent t-tests have been applied and the result shown in Table 2. The Levene's F-test is assumed that the result is significant ($F=1.052$, p value > 0.05), hence, the data were an equal variances assumed. Further, the result of t-test for equality of means found an insignificant difference ($t=-1.054$, p value > 0.05), thus null hypothesis is accepted. Hence, it can be concluded that there is no significant difference of return on assets ratio between integrated and non-integrated sugar companies.

Hypothesis Testing – Liquidity Ratios

The data have been further analysed to see whether the mean difference between liquidity ratios. For this purpose, the data have been analysed liquidity ratios, whether to find out any significant difference of liquidity ratio between integrated and non-integrated sugar companies with the help of Independent t test. The Levene's F-test is computed to check the homogeneous of the group variables and results proved that significant the data is suitable for further analysis.

Current ratio

From the table 3, it can be seen that, current ratio concerns; non-integrated companies (2.988) has obtained the highest mean score as compared to integrated firm (2.508) The result indicates that non-integrated companies are performed well in terms of Current ratio.

Null Hypothesis Ho: "There is no significant difference of current ratio between integrated and non-integrated sugar companies".

In order to test the significant mean difference of current ratio between integrated and non-integrated sugar companies, an independent t-tests have been applied and the result shown in Table 4. The Levene's F-test is assumed that the result is not significant ($F=1.720$, p value > 0.05), hence, the data were an equal variances assumed. Further, the result of t-test for equality of means found a significant difference ($t=-2.369$, p value < 0.05), thus null hypothesis is rejected. Hence, it can be concluded that there is significant difference of current ratio between integrated and non-integrated sugar companies.

Table 3 Liquidity Ratios - Mean and Standard Deviation of Integrated and Non-integrated Companies

Sl. No	Liquidity Ratios	Type	N	Mean	Std. Deviation	Std. Error Mean	Mean Difference
1	Current Ratio	Integrated	120	2.508	1.302	0.119	-0.4799
		Non-Integrated	80	2.988	1.544	0.173	
2	Quick Ratio	Integrated	120	1.262	1.256	0.115	0.0828
		Non-Integrated	80	1.180	1.362	0.152	
3	Absolute Quick Ratio	Integrated	120	0.211	0.313	0.029	0.0506
		Non-Integrated	80	0.161	0.293	0.033	

Source: Computed

Quick ratio

It is evident from the table 3, it can be seen that, quick ratio concerns; integrated firms (1.260) has obtained the highest mean score as compared to non-integrated firm (1.180). The result indicates that integrated companies are performed well in terms of quick ratio.

Null Hypothesis Ho: "There is no significant difference of quick ratio between integrated and non-integrated sugar companies".

In order to test the significant mean difference of quick ratio between integrated and non-integrated sugar companies, an independent t-tests have been applied and the result shown in Table 4. The Levene's F-test is assumed that the result is not significant ($F=0.373$, p value > 0.05), hence, the data were an equal variances assumed. Further, the result of t-test for equality of means found an insignificant difference ($t=-0.442$, p value > 0.05), thus null hypothesis is accepted. Hence, it can be concluded that there is no significant difference of quick ratio between integrated and non-integrated sugar companies.

Table 4 Liquidity Ratios - Mean Difference and Independent Samples 't' Test of Integrated and Non-Integrated Companies

Sl. No	Liquidity Ratios	Assumptions	Levene's Test for Equality of Variances		t-test for Equality of Means			Remarks
			F	Sig.	t	df	Sig. (2-tailed)	
1	Current Ratio	Equal variances assumed	1.720	.191	-2.369	198.000	.019	Significant
		Equal variances not assumed			-2.290	149.399	.023	
2	Quick Ratio	Equal variances assumed	.373	.542	.442	198.000	.659	Not Significant
		Equal variances not assumed			.435	159.896	.664	
3	Absolute Quick Ratio	Equal variances assumed	.123	.726	1.148	198.000	.252	Not Significant
		Equal variances not assumed			1.163	176.880	.246	

Source: Computed

Absolute quick ratio

It is evident from the table 3, it can be seen that, absolute quick ratio concerns; integrated firms (0.211) has obtained the highest mean score as compared to non-integrated firm (0.161). The result indicates that integrated companies are performed well in terms of absolute quick ratio.

Null Hypothesis Ho: "There is no significant difference of absolute quick ratio between integrated and non-integrated sugar companies".

In order to test the significant mean difference of absolute quick ratio between integrated and non-integrated sugar companies, an independent t-tests have been applied and the result shown in Table 4. The Levene's F-test is assumed that the result is not significant ($F=0.123$, p value > 0.05), hence, the data were an equal variances assumed. Further, the result of t-test

for equality of means found an insignificant difference ($t= 1.148$, p value > 0.05), thus null hypothesis is accepted. Hence, it can be concluded that there is no significant difference of absolute quick ratio between integrated and non-integrated sugar companies.

Conclusion

The profit margin is familiar measures of the accounting ratios which is represent the ultimate goal of the firm's earning. The company can generate the profit such a way of sales revenue, return on investment and reduce the cost. According to the changes in the profit margin, between the firm comparisons would have been understood by the reasons for changes in sale revenue, effectiveness of the cost control measures, and the changes in the business environment. The major dilemma for the evaluation of the profit margin, which is difficult to compare results, because the nature of the corporate environment is significantly different to the status of the industry and business strategy. Liquidity ratios are highly useful to creditors and commercial banks that provide short-term credit. Short-term refers to a period not exceeding one year. Liquidity ratios measure the firm's ability to meet current obligations, as and when they fall due. A firm should ensure that it does not suffer from lack of liquidity and also does not have excess liquidity. In the absence of adequate liquidity, the firm would not be able to pay creditors, who have supplied goods and services, on the due date promised. If the firm maintains more liquidity, it will not experience any difficulty in making payments. However, a higher degree of liquidity is bad, as idle assets earn nothing, while there is cost for the funds. The firm's funds will be, unnecessarily, tied up in liquid assets. Both inadequate and excess liquidity are not desirable. It is necessary for the firm to strike a proper balance between high liquidity and lack of liquidity.

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