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Analysis of Financial Statement of Selected Indian Public Sector Oil Companies in India

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ABSTRACT

The development of scientific approaches to assessing and diagnosing the financial risks of oil industry in the indian Federation becomes a high priority task in conditions of high level of volatility in oil prices in the world energy market and preservation of sanctions regime. The article shows the main threats to financial stability of oil companies in India Using cluster analysis, a system of indicators is proposed that determines the level of financial risk of oil companies in India Based on the method of expert assessments and fuzzy sets, the classification of financial risk levels of oil industry is proposed. The integrated financial risk level of oil industry was calculated and scenarios of its development for 2018-2020 were forecast by means of regression modeling. The system of measures to improve the stability of oil companies and prevent functional financial risks is argued. The practical implementation of research results will be the basis for timely diagnosis of financial risks and qualitative development of preventive measures to neutralize them in the oil industry of India.

I. INTRODUCTION

Financial statements are prepared primarily for decision making. They play a dominant role in setting the framework of managerial decisions. But the information provided in the financial statements is not an end in itself as no meaningful conclusions can be drawn from these statements alone. However, the information provided in the financial statements is the immense use in making decisions through analysis and interpretation of financial statements. Financial analysis is “the process of identifying the financial strengths and weaknesses of the firm by properly establishing relationship between the items of the balance sheet and the profit and loss account.” There are various methods or techniques used in analyzing financial statements such as comparative statements, schedule of changes in working capital, common-size percentages, funds analysis, trend analysis and ratio analysis. The ratio analysis is the most powerful tool of financial analysis.

II. OBJECTIVES OF THE STUDY

1. To analyze the Production, Sales and Profit trend of selected Oil companies.

2. To analyze the Activity of selected Oil Companies.

3. To analyze the Profitability of selected Oil Companies.

4. To analyze the Financial Structure of selected Oil Companies.

5. To make suggestions for improvement of financial soundness.

III. REVIEW OF LITERATURE

Jagan Mohan Rao (1993)2 in 'Financial appraisal of Indian Automotive Tyre Industry' studied the financial appraisal of Indian automotive tyre industry. The study was intended to probe into the financial condition-financial strength and weakness-of the Indian tyre industry. To this end a modest attempt has been made to measure and evaluate the financial performance through inter-company and inter-sectoral analysis over a given period of time (1981-1988). The main findings are that fixed assets utilization in many of the tyre undertakings was not as productive as expected and inventory was managed fairly well. The tyre industry's overall profit performance was subjected to inconsistency and ineffective.

Kallu Rao (1993)3 has made a study inter company financial analysis of tea industry-retrospect and prospect. An attempt has been made in this study to analyze the important variables of tea industry and projected future trends regarding sales and profit for the next 10 year periods, with a view to help the policy makers to take appropriate decisions. Various financial ratios have been calculated for analyzing the financial health of the industry. The forecast of sales and profits of tea manufacturing companies shows that the Indian tea industry has bright prospects. The recent changes in the Indian economic policies will boost up the foreign exchange earnings, which will benefit those companies, which are exporting to hard currency areas.

Pai, Vadivel and Kamal (1995)5 studied the diversified companies and financial performance: A study. An effort was made to study the relationship between diversified firms and their financial performance. Seven large firms having different products-both related and otherwise-in their portfolio and operating in diverse industries were analyzed. A set of performance measures / rations and employed to determine the level of financial performance. The results reveal that the diversified firms studied have been healthy

financial performance. However, variation in performance from one firm to another has been observed and statistically established.

Vijayakumar (1996)6 in 'Assessment of Corporate Liquidity – a discriminate analysis approach' has revealed that the growth rate of sales, leverage, current ratio, operating expenses to sales and vertical integration are the important variables which determine the profitability of companies in the sugar industry. Further, the author has studied the short-term liquidity position in twenty-eight selected sugar factories in co-operative and private sectors. A discriminate analysis has been undertaken to distinguish the good risk companies from poor risk companies based on current and liquidity rations. Discriminating 'Z' scores have been calculated with the help of discriminate function and according to the 'Z' scores the companies are ranked in the order of liquidity.

IV. METHODOLOGY

The objective of this part to present methodology adopted in collection and analysis of data for this study. It outlines the procedure followed for selection of sample, sources of data, the techniques followed in analyzing the data and the period of study. Further, the hypothesis said and limitations of the study have also been dealt herein.

V. Tools and techniques for analysis of financial statements

There are many techniques which may be used for analyzing the financial statements. These techniques may be classified as follows:

(A) Accounting Techniques

(B) Statistical Techniques

(C) Mathematical Techniques

4.1.Hypothesis of the study

Selection of the topic is made with view to evaluate financial statements of the selected Indian Oil companies after liberalization. Against this back draft, the following hypotheses are formulated in order to test their validity in the context of selected Indian Oil companies.

H0 – There is no significant difference in the mean percentages of profitability ratios between the sectors and years.

4.2.Co-efficient of variation

It is used in problems which require comparing the variability of two or more than two series. Series, for which the co-efficient of variation is greater, is said to be more variable or less consistent. On the other hand, the series for which co-efficient variations is less is said to be less variable or more consistent. In the analysis of financial data, less co-efficient of variation in this ratio is taken to relatively better control of management on that ratio. It is determined as follows. Where 'O'is the standard deviation and X is mean ratio. Therefore, for the purpose of companies of variability in the profitability ratio between after liberalization period, co-efficient of variation should be computed. Compound Annual Growth Rate To Estimate compound annual growth rate of various profitability ratios the following model has been used

Y = ABt + e□ (or) Log y = log A + t log B + □

Where Y is the value of dependent variable, t is the time variable, A and B are constants and e□ is error term. The compound annual growth rate is obtained as follows. **r = (B-1) 100** Where 'r' is the compound growth rate of Y

4.3.Trend Analysis

In order to compute the index of change in a variable, the following formula has been used

It = (yt / yo) 100

Where yt is the value of the variable in the year t for which the index is to be compounded, yo is the value of the variable in the base year. In order to measure the change in the profitability analysis of selected Indian Oil Companies after liberalization such indices has been computed.

4.5.Chi-square test

In order to find out whether is any association between actual and trend values of profitability analysis or not, chi-square test is applied, where chisquare is defined as

X2 = □ □ (O-E)2 / E

Where O refers to the observed frequencies and E refers to the expected frequencies. The calculated value of chi-square is compared with the tabulated value of chi-square at (c-a) (r-1) d.f., and results are interpreted. If the calculated value of chi-square is more than the tabulated value of chisquare, the difference between observed and expected values us considered to be significant i.e., it could not have arisen due to change factor. The technique of chi-square is applied for the analysis of profitability trend.

4.6.Analysis of variance

The analysis of variance has been developed specially to test the hypothesis whether the profitability ratios have significant difference or not been the sectors after liberalization periods.

4.7.Regression analysis

Linear regression equations were fitted using Ordinary Least Square (OLS), by regressing dependent variable on the independent variable as

Y = a + bx + u Where Y = dependent variable X = independent variable u = Error term

The statistical significance of 'b'was worked out by applying 't' and R2 was computer to determining the percentage variation in the dependent variables by the independent variable. As the purpose by determining the relationship between the size and profitability of Indian Oil Companies the linear regression equal has been used in the study.

V.LIMITATIONS OF THE STUDY

However, there are some limitations of the study, which are generally inherent in all such studies conducted at human being level. The most important among them are:

i. The study is based on secondary data obtained from the published annual reports and as its finding depends entirely on the accuracy of such data.

ii. The study is covered only three selected companies. So the finding may not be applicable to entire industries as a whole.

iii. The present study is largely based on ratio analysis which has its own limitations.

iv. Statistical test used in the study to interpret the analyzed data to generalize the findings of the study for the entire population has got their own limitations and result in the analysis is subject to same constraints as are applicable to statistical tools.

v. The financial statement does not keep pace with the changing price level. However, all these limitations, do not, in any way, affect the worth of this research work.

VI. ANALYSIS OF PROFITABILITY

Table No.1.1

Gross profit margin ratio

Years	BPCL		HPCL		IOCL	
	Percentage	Index	Percentage	Index	Percentage	Index
2001-02	5.12	100	4.38	100	5.89	100
2002-03	5.73	112	6.13	140	9.26	157
2003-04	6.68	130	6.96	159	9.88	168
2004-05	3.37	66	3.81	87	5.77	98
2005-06	1.56	30	1.37	31	5011	87
2006-07	3.8	74	2.98	68	6.04	103
2007-08	3.35	65	1.86	42	5.18	88
2008-09	1.55	30	1.35	31	2.35	40
Mean	**3.90**		**3.61**		**6.19**	
CV	**0.48**		**0.59**		**0.39**	
CAGR	**-15.69**		**-15.48**		**-12.3**	

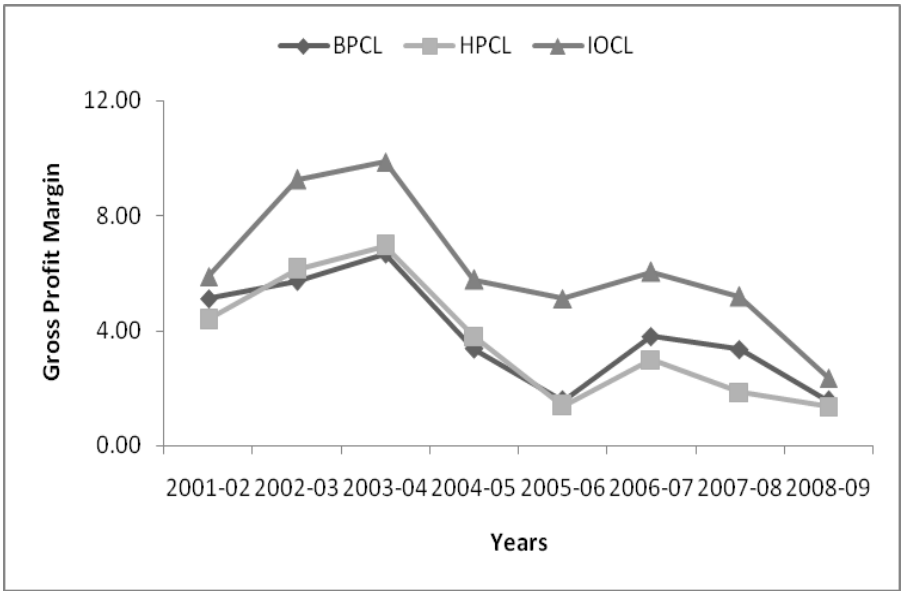
Source: Computed from the Annual reports of the respective companies

Sources of Variance	Sum of Squares	D.F.	Mean Square Variance	F Ratio	F Critical Value (5% level)
Between companies	90.02	7	12.86	29.11	2.76
Between years	31.96	2	15.98	36.17	3.74
Residual	**6.18**	**14**	**0.44**		

Source: Computed.

Chart no.1.1

Gross Profit Margin Ratio



Further, gross profit margin ratio of BPCL registered negative (-15.69) compound annual growth rate during the study period. The gross profit margin ratio of HPCL was registered fluctuating trend and ranged from 1.35 per cent in the year 2008-2009 to 6.96 percent in the year 2003-2004 during the study period. The Table 4.3 showed that the mean gross profit margin ratio of HPCL was 3.61 percent which is statistically significant. The CV value further indicated erratically fluctuation (0.59) in this ratio during the study period. Further, gross profit margin ratio of HPCL registered negative (-15.48) compound annual growth rate during the study period.

In IOCL gross profit margin ratio was registered fluctuating trend and ranged from 2.35 per cent in the year 208-2009 to 9.88 percent in the year 2003-2004 during the study period. The Table 4.3 showed that the mean gross profit margin ratio of IOCL was 6.19 percent which is statistically significant. The CV value further indicated highly fluctuation (0.39) in this ratio during the study period. Further, gross profit margin ratio of IOCL registered negative (-12.3) compound annual growth rate during the study period.

Table 1.1 also indicated the IOCL had the highest mean gross profit margin ratio, followed by HPCL and BPCL. The CV value also indicated that highly fluctuation in gross profit margin ratio of public sector oil companies during the study period. The compound annual growth rate of gross profit margin ratio had registered negative value in all the selected oil companies during the study period.

To judge whether the difference in the mean values of gross profit margin ratio between the companies and between the years during the year period, the following hypothesis is framed and tested.

Table No. 1,2

Return on capital employed

Years	BPCL		HPCL		IOCL	
	Percentage	Index	Percentage	Index	Percentage	Index
2001-02	19.01	100	16.73	100	16.78	100
2002-03	29.53	155	28.6	171	27.87	166
2003-04	33.47	176	33.74	202	29.79	178
2004-05	23.54	124	18.73	112	18.61	111
2005-06	6.78	36	3.7	22	15.34	91
2006-07	18.22	96	14.33	86	17.84	106
2007-08	14	74	9.96	60	18.85	112
2008-09	11.88	62	9.88	59	9.84	59
Mean	**19.55**		**16.96**		**19.37**	
CV	**0.46**		**0.59**		**0.34**	
CAGR	**-6.5**		**-7.25**		**-7.34**	

TABLE.N0.2.1

RETRUN ON TOTAL ASSETS

Years	BPCL		HPCL		IOCL	
	Percentage	Index	Percentage	Index	Percentage	Index
2001-02	12.84	100	8.69	100	8.06	100
2002-03	22.69	177	18.25	210	19.93	247
2003-04	27.69	216	20.92	241	22.25	276
2004-05	20.19	157	13.32	153	13.63	169
2005-06	4.02	31	2.94	34	9.18	114
2006-07	11.16	87	8.32	96	13.21	164
2007-08	7.16	56	4.99	57	11.16	138
2008-09	2.17	17	2.26	26	2.69	33
Mean	**13.49**		**9.961**		**12.514**	
CV	**0.68**		**0.70**		**0.51**	
CAGR	**-22.43**		**-17.5**		**-14.51**	

Source : Computed from the Annual reports of the respective companies

Table 2.2

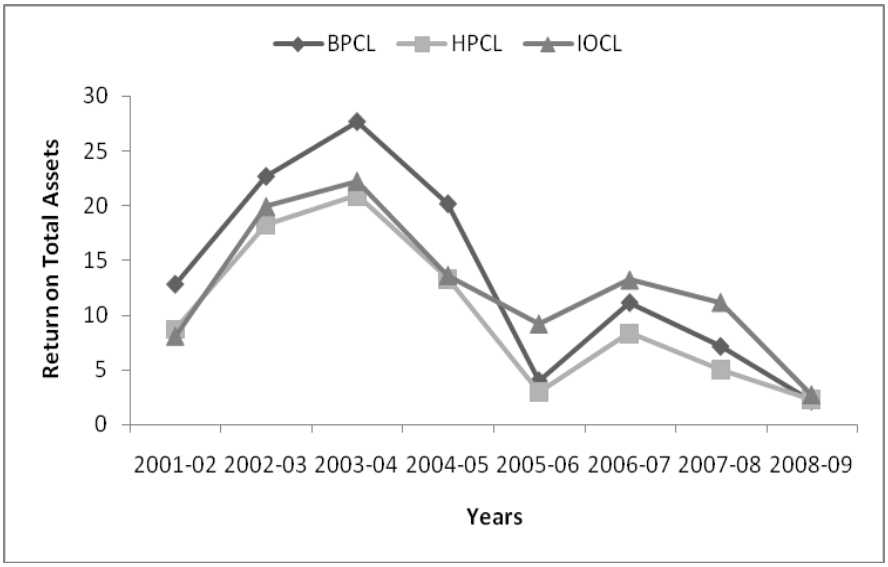
Analysis of variance of return on total assets

Sources of Variance	Sum of Squares	D.F.	ean Square Variance	F Ratio	F Critical Value (5% Level)
Between companies Between years	1133.13	7	161.88	28.22	2.76
Residual	**80.31**	**14**	**5.74**		

Source: Computed.

Chart No: 2.1

Return on total assets



VII.FINDINGS

The present study has examined the performance operational efficiency of oil companies in India. The techniques of Ratio analysis, Chi-square and Regression analysis were used. The analysis undertaken was divided into five chapters, viz., Introduction, Review of literature and profile of the companies, Analysis of trends, Analysis of profitability and financial structure and Fin dings suggestions and conclusion. A summary of the findings from the above analysis is given below:

7.1.Production Trend

The comparison of production performance among the three companies revealed that the production of BPCL is the highest, followed by HPCL and IOCL. The production performance of BPCL and HPCL are consistent while the production of IOCL is erratically fluctuated during the study period. All the three companies registered positive compound annual growth rate in production during the study period. The study showed that the production performance of BPCL is better than the HPCL and IOCL. All the selected companies, the difference between the actual and trend value of production is significant.

Sales Trend The comparison of sales performance among the three companies revealed that the sales of IOCL are the highest, followed by BPCL and HPCL. The sales performance of all the three companies registered moderate fluctuation during the study period. All the three companies registered positive compound annual growth rate in sales during the study period. It is showed that the sales performance of IOCL is better than the BPCL and HPCL. All the selected companies, the difference between the actual and trend value of profitability is significant.

7.2.Analysis of activity

The BPCL had highest mean total assets turn over ratio, followed by HPCL and IOCL. The CV value also indicated that moderate fluctuation in total assets turnover ratio of public sector oil companies during the study period. The compound annual growth rate of total assets turnover ratio had registered positive value in BPCL and HPCL during the study period. The total assets turnover ratio significantly differs between the companies and between the years during the study period. The HPCL had highest mean fixed assets turn over ratio, followed by BPCL and IOCL. The CV value also indicated that moderate fluctuation in fixed assets turnover ratio of selected public sector oil companies during the study period. The compound annual growth rate of fixed assets turnover ratio had registered positive value in all the selected oil companies during the study period. The fixed assets turnover ratio significantly differs between the companies and between the years during the study period. The HPCL had highest mean current assets turnover ratio, followed by BPCL and IOCL. The CV value also indicated that moderate fluctuation in current assets turnover ratio of public sector oil companies during the study period. The compound annual growth rate of current assets turnover ratio had registered positive value in all the selected oil companies during the study period. The current assets turnover ratio significantly differs between the companies and between the years during the study period.

The HPCL had highest mean inventory turnover ratio, followed by BPCL and IOCL. The CV value also indicated that moderate fluctuation in inventory turnover ratio of public sector oil companies during the study period. The compound annual growth rate of inventory turnover ratio had registered positive value in BPCL, HPCL and negative value in IOCL during the study period. The inventory turnover ratio significantly differs between the companies and between the years during the study period.

The HPCL had highest mean debtor's turnover ratio, followed by BPCL and IOCL. The CV value also indicated that moderate fluctuation in debtor turnover ratio of public sector oil companies during the study period. The compound annual growth rate debtor turnover ratio had registered positive value in all the selected oil companies during the study period. The debtor's turnover ratio significantly differs between the companies and not significantly differs between the years during the study period.

7.3.Analysis of profitability from the view of financial management

The IOCL had highest mean operating profit margin ratio, followed by HPCL and BPCL. The CV value also indicated that highly fluctuation in operating profit margin ratio public sector oil companies during the study period. The compound annual growth rate of operating profit margin ratio had registered negative value in all the selected oil companies during the study period. The operating profit margin ratio significantly differs between the companies and between the years during the study period.

7.4.Analysis of profitability from the view point of shareholders funds

The IOCL had highest mean net profit ratio, followed by HPCL and BPCL. The CV value also indicated that erratically fluctuation in net profit ratio of public sector oil companies during the study period. The compound annual growth rate of net profit ratio had registered negative value in all the selected oil companies during the study period. The net profit ratio significantly differs between the companies and between the years during the study period.

7.5.Profitability Trend

The comparison of profit performance among the three companies revealed that the profit of IOCL is the highest, followed by BPCL and HPCL. The profit performance of all the three companies registered moderate fluctuation during the study period. All the three companies registered negative annual compound growth rate in profit during the study period. The study showed that the profit performance of IOCL is better than the BPCL and HPCL. All the selected companies, the difference between the actual and trend value of profitability are significant

IX.SUGGESTIONS

1. The direct taxes on petroleum products in India are very high – a moderate indirect tax regime would support the high growth rate that India aspires to achieve in both short and medium term. 2. It also suggests that while formulating the tax rates, countries like India should phase out subsidies gradually, keeping in mind the socio political aspects of the issue.

3. The ratio of excise duty to retail prices in India are as high as 36% for petrol and 17% for diesel, which by far are the highest as compared to other developing countries like China, Indonesia, Pakistan, Thailand and Philippines. Hence, it should be reduced to below 15%.

4. It is the need of hour that pricing of petrol and petroleum products should be rationalized interest and recommendations of the Dr. Rangarajan Committee about pricing of petroleum products should be implemented in letter and spirit.

5. The solution to the problem of protection to public sector oil undertakings lies in the scrapping of subsidies and taxes that coexist. It is pointed out that Government of India in the past has rectified such co-existence of subsidized LPG and PDS kerosene. Co-existence of subsidies through oil bonds along with taxes or excise would virtually eliminate the possibility of healthy private sector participation. 6. Our country is importing petroleum at high cost and passing the benefit to some miscreants black marketers and the burden of high cost of import is borne by the general public in the form of general hike in the prices of every thing. It is a well-known fact that to neutralize subsidy burden on the oil importing companies, government is issuing the oil bonds, which the PSU banks and LIC are forced to subscribe.

XI.CONCLUSION

The analysis of Production, Sales and Profit trends of the selected oil companies indicates good performance during the study period. The analysis of profitability of selected oil companies showed the efficiency of oil company in utilizing their resources effectively in generating the return. However, the selected oil companies should improve their Liquidity position. It is high time that the authorities give due attention to the financial viability of oil companies.

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