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A Study on Analysis of Financial Health of Indian Oil Corporation Limited

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ABSTRACT: Financial performance is important measurement to understand the overall financial health of any organization for given period of time. Liquidity, solvency, and efficiency are important requirement for any organization because these ratio are stated the financial health of any organization. This study is secondary in nature. Data have been obtained from published annual reports of the Indian Oil Corporation Limited. The period of study is 10 years, 2010-2011 to 2019-2020. In order to scrutinize financial health of the company, Current Ratio, Quick Ratio, Interest Coverage Ratio, Debt –Equity Ratio, Inventory Turnover Ratio, Debtors Turnover Ratio, Asset Turnover Ratio have been selected as independent variables and Return on Equity as dependent variable. To achieve the outcome of the present study, descriptive statistics, correlation, multiple regression, hypothesis testing, etc. have been used. Data have been processed through SPSS version20. The study reveals a negative correlation between QR, ITR, and DER with ROE this has been found to be statistically significant .Whereas a positive correlation ship exits in between DTR, DER with ROE.

KEYWORDS: Liquidity Ratio, Solvency Ratio, Efficiency Ratio, Financial Health.

I. INTRODUCTION

Financial soundness is the back bone of any industry. Financial performance is important measurement to understand the overall financial health of any organization for given period of time. It is very important to examine financial performance of any organization from every angle, so that we know the position hold by the company in the industry. Liquidity, solvency, and efficiency are important requirement for any organization because these ratio are stated the financial health of any organization. The meaning of liquidity implies that ability of any organization to meet its present obligation without any delay. It should be neither excess nor inadequate. Excess liquidity refers ideal fund for the company through which no extra profit earn and inadequate liquidity implies shortage of regular funds which creates obstacle to handle to run the daily transaction or business work. On the other hand, solvency implies the ability of any organization to meet the long term debt obligation. Efficiency ratio describes potentiality to employ its resources to generate income. Furthermore, investors utilize efficiency ratio when investing their money in the company in order to know whether they invest in profitable or company or not.

The oil and gas sector plays an important role in Indian economy. India Oil Corporation is Maharatna companies. Indian Oil Corporation one of the largest refining, transportation and marketing of petroleum product, exploration and production of crude oil and marketing of petrochemical and natural gas. It was established in 1959.The company expands its business over the year through it operation of hydrocarbon value chain. The company is the one of the largest contributor national exchequer in term of paying duties and taxes.

In the backdrop of the present study, the relationship between liquidity and performs profitability and as well as impact of liquidity on firm profitability has been discussed and carefully studied for many years. Many research has been carried out know the relationship between liquidity and profitability. Some researcher suggest that there is negative or some suggest that positive relationship exist between liquidity and profitability and other suggest that no relationship exist.

II.LITERATURE REVIEW

Chandra kumarmang alam and P. Govindasamy (2010): examine the relationship between the leverage and the earning per share, also investigates the relationship in between debt equity ratio and earnings per share. They concluded that leverage has significant impact on profitability.

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Pawan et al. (2013) all aim of their paper is to examine the various financial ratios to know the financial position of the company. The main drawback of this study is that they ignore the impact of various ratios which they are used for the study.

Antoniammal and Govindarajan (2014): In this paper, an attempt has been made to examine the financial performance of Indian Oil Corporation Limited .by using some selected ratio namely EPS Ratio, Leverage, , Solvency Ratio, Reserve to Capital Ratio etc.

Ahemad (2016): the main objectives of this paper to know the impact of liquidity solvency on return on capital employed of Hindustan Petroleum Corporation limited. They found as significant impact of inventory turnover ratio on return on capital employed.

III. RESEARCH GAP

From the Review previous studies, it is clear that there is no dearth of study in respect of analysis of financial performance of oil and petroleum industry but study on impact on liquidity and solvency on return on equity of Indian Oil Corporation is hardly available. Thus this area is indentified as research gap.

Research Question

For the achieving the objectives of the present study following research question has been made:

1. Is there any impact of liquidity on Return on equity of the company?
2. Is there any impact of solvency on Return on equity of the company?
3. Is there any impact of efficiency ratio on return on equity of the company?

Objectives

1. To assess the financial performance Indian oil of corporation in respect of liquidity, Solvency, and profitability.
2. To evaluate the impact of Liquidity, Solvency and Efficiency on profitability.

IV. RESEARCH METHODOLOGY

This study is secondary in nature. The data have been collected from the annual reports of the Indian oil corporation limited. This study covered a period of 10 years from 2010-11 to 2019-20 to know the impact of liquidity and solvency position and as well as it impact on ROE of the company. In statistical tools, descriptive statistics, correlation, multiple regression, hypothesis testing, etc. have been used. Accounting ratio has been adopted as accounting tool.

Variables Used For Analysis:

1. Independent Variables
   a. Current Ratio(CR)=current assets/ current liabilities
   b. Quick Ratio (QR)= current assets – (stock + prepaid expenses) / current liabilities – bank overdraft
   c. Interest Coverage Ratio(ICR)= EBIT / Interest Charges
   d. Debt –Equity Ratio(DER)== debt / equity
   e. Inventory Turnover Ratio(ITR)= costs of goods sold / average inventory
   f. Debtors Turnover Ratio= = Credit Sales / Average Debtors
   g. Asset Turnover Ratio= Sales / Total Asset
2. Dependent Variable:
   a. Return On Equity (ROE) = Net Income / Shareholders' Fund

Table1: Analysis of Selected Ratio Indian Oil Corporation Limited (IOCL)

YY YEAR	LIQUIDITY RATIO		SOLVENCY RATIO		EFFICIENCY RATIO			PROFITABILITY RATIO
	Current ratio (times)	Quick ratio (times)	Interest coverage ratio (times)	Debt equity ratio (times)	Inventory turnover ratio (times)	Debtors turnover ratio (times)	Asset turnover ratio (times)	Retun on equity ratio (%)
2010-11	0.69	0.50	4.37	0.91	6.66	48.62	8.36	13.45
2011-12	0.81	0.54	3.05	1.22	7.01	45.97	4.63	6.83
2012-13	0.76	0.56	1.87	1.28	7.4	45.3	4.66	8.19
2013-14	0.72	0.51	2.62	1.22	7.31	45.17	4.44	10.64
2014-15	0.88	0.52	2.82	0.73	9.61	53.34	4.63	7.76

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2015-16	0.99	0.40	6.42	0.48	8.96	56.87	4.66	12.75
2016-17	0.99	0.24	8.6	0.51	5.78	56.47	4.54	19.1
2017-18	1.03	0.28	10.28	0.5	6.48	55.5	4.22	19.37
2018-19	1.01	0.35	6.78	0.77	7.38	48.34	3.74	15.54
2019-20	1.01	0.28	2.26	1.2	7.64	41.02	4.05	10.4
Minimum	0.69	0.24	1.87	0.48	5.78	41.02	3.74	6.83
Maximum	1.03	0.54	10.28	1.28	9.61	56.87	8.36	19.37
Average	0.889	0.418	4.907	0.882	7.423	49.66	4.79	12.40
S.D	0.133	0.122	2.94	0.328	1.132	5.54	1.29	4.496
Slop of the trends	20.38	-20.83	0.454099	-3.516	0.067	0.066	-1.564	0.329
t value	5.82	-4.448	1.390	-1.167	0.071	0.345	-2.529	1.585
P Value	0.0003	0.002	0.201	0.027	0.944	0.738	0.0352	0.0151

*Significant at 5 per cent level.
Source: Compiled from published annual reports during the period of 2010-11 to 2019-2020 and computed using SPSS 20.

The Table1 discloses the current ratio and quick ratio of the company are below the standard norm i.e. 2:1 and quick ratio i.e. 1:1. . With the help of above table it has found that the liquidity position of the IOCLL is not satisfying the standard norms of the liquidity ratio. Table 1 revels that, in the year 2017-18, the current ratio is recorded maximum during the study period i.e. 1.03 and 0.69 is lower in the year 2010-11. The mean of current ratio of the throughout the period of study is 0.889. The linear trend equation fitted to the current ratio series discloses statistically significant increasing trend during the period under study. On the other hand, in the year 2011-12, quick ratio is recorded highest i.e. 0.54 during the period of the study and lowest i.e. 0.24 in the year 2016-17.The mean of quick ratio of during the period of study is 0.418. The linear trend equation fitted to the quick ratio series discloses statistically significant decreasing trend during the period under study.

In case of solvency ratio, interest coverage ratio (ICR) is maximum i.e. 10.28 in the year 2017-18 and minimum i.e. 1.87 in year 2012-13. . The mean of ICR of during the period of study is 4.907. The trend line fitted to the ICR series indicates an increasing trend which has not statistically significant. On the other hand, in term of debt equity ratio, is recorded highest i.e. 1.28 in the year 2012-13 and recorded lowest i.e. 0.48 in the year 2015-16. The mean of debt equity ratio of during the period of study is 0.882. The linear trend equation fitted to the debt equity ratio series indicates decline trends which is statistically.

In order to measure performance of efficiency of organization, we used the inventory turnover ratio, debtor turnover ratio of the company and asset turnover ratio. Table1 discloses that, in the year 2014-15, inventory turnover ratio is recorded maximum during the study period i.e. 9.61 and 5.76 is lowest in the year 2016-17. The mean of ITR of the company during the period of study is 7.423. The trend line fitted to the ITR series indicates an increasing trend which has not statistically significant. The mean of DTR of the company during the period of study is 49.66. In term of debtor turnover ratio (DTR) is recorded maximum i.e. 56.87 in the year 2016-17 and recorded lowest 41.02 in the year 2019-20. The linear trend equation fitted to the DTR ratio series indicates upwards trends which is statistically insignificant. In term of asset turnover ratio (ATR) is recorded maximum i.e. 8.36 in the year 2016-17 and recorded lowest 3.74 in the year 2019-20. The mean of ATR of the company during the period of study is 4.793. The linear trend equation fitted to the ATR ratio series indicates upwards trends which is statistically significant.

Return of equity helps to measure the earning capacity of the company. The higher ROE indicates efficient utilization of company's fund. Table 1 discloses that the ROE of the company varied between 19.37 per cent in 2017-18 and 6.8 in 2011 – 12 during the period of study. The mean of the company ROE for the period of is 12.40 per cent. The trend line fitted to the ROE series

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indicates an upward trend which is statistically significant.

It is also clear from the Table 1 that there is much degree of variability in the standard deviation of the independent variables and dependent variable. It advocates that there are different degrees of association between the independent variables and dependent variable.

Therefore, we formulate the followings hypotheses for the purpose of the study:

1. H_0: There exists no significant impact of CR on ROE

H_1: There exists significant impact of CR on ROE

2. H_0: There exists s no significant of impact of QR on ROE

H_1: There exists significant of impact of QR on ROE

3. H_0: There exists s no significant of impact of ICR on ROE

H_1: There exists significant of impact of ICR on ROE

4. H_0: There exists s no significant of impact of DER on ROE

H_1: There exists significant of impact of DER on ROE

5. H_0: There exists s no significant of impact of ITR on ROE

H_1: There exists significant of impact of ITR on ROE

6. H_0: There exists s no significant of impact of DTR on ROE

H_1: There exists significant of impact of DTR on ROE

7. H_0: There exists s no significant of impact of ATR on ROE

H_1: There exists significant of impact of ATR on ROE

V.ANALYSIS AND FINDINGS

TABLE 2: PEARSON CORRELATION TEST

Correlations									
		CR	QR	ITR	ICR	DER	DTR	ATR	ROE
ROE	Pearson Correlation	.545	-.791**	-.566**	.926**	-.730*	.583**	-.018	1
	Sig. (2-tailed)	.103	.006	.038	.000	.016	.047	0.960	.0

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Calculated by authors

Table 2 interprets that nature of relationship of selected dependent variables with independent variable during the period of study. Table 2 discloses a negative correlation between QR, ITR, and DER with ROE this has been found to be statistically significant .Whereas a positive correlation ship exits in between DTR, DER with ROE.

TABLE 3: RESULTS OF MULTIPLE REGRESSION ANALYSIS (DEPENDENT VARIABLE ROE)

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	VIF
	B	Std. Error	Beta			
(Constant)	43.499	17.563		2.477	0.042*	
CR	-42.733	14.728	-1.166	-2.902	0.023*	3.539
QR	-14.886	13.517	-.442	-1.101	0.307	3.539
R = 0.825	R^2 = 0.681	Adjusted R^2 = 0.590	F- statistic = 7.465*			Durbin Watson=1.52

*Significant at 5 per cent level.
Source: Compiled from published annual reports during the period of 2010-11 to 2019-2020 and computed using SPSS 20.

It is found from the Table 3 that correlation coefficient between all predictors and outcomes variable decoding the strength of association by 82.5 %(R=0.825) followed by coefficient of determination which is decoding the 68.1 % (R^2 =0.681).which implies that the portion of variances on ROE is decoding by liquid ratio. The Adjusted coefficient of determination is also decoding variance by 59.0 % (Adjusted R^2 = 0.590) which implies modified explanatory strength of current ratio and quick ratio on ROE is 59.10%. Table also shows that F statistic (7.46) with p-value (0.018) indicates that the regression model is perfectly fitted. Moreover in case of individual impact, current ratio has an insignificant on ROE .Therefore, we accept null hypothesis 1: H_0. Whereas Quick ratio has significant impact on ROE of the company. Therefore, we accept alternative hypothesis 2: H_1.

TABLE 4: RESULTS OF MULTIPLE REGRESSION ANALYSIS (DEPENDENT VARIABLE ROE)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	VIF
	B	Std. Error	Beta			
(Constant)	38.900	4.203		9.255	.000*	
ICR	-2.349	.513	-.592	-4.576	.003*	1.001
DER	-10.273	1.771	-.750	-5.801	.001*	1.001
R = 0.940	R^2 = 0.883	Adjusted R^2 = 0.850	F- statistic = 26.446**			Durbin Watson=1.04

*Significant at 5 per cent level.
Source: Compiled from published annual reports during the period of 2010-11 to 2019-2020 and computed using SPSS 20.

It is found from the Table 4 that correlation coefficient between all predictors and outcomes variable decoding the strength of association by 94.50 %(R=0.940) followed by coefficient of determination which is decoding the 88.3 % (R^2 =0.883).which implies that the portion of variances on ROE is decoding by solvency ratio. The Adjusted coefficient of determination is also decoding variance by 88.30 % (Adjusted R^2 = 0.883) which implies modified explanatory strength of ICR and DER ratio on ROE is 85%. Table also shows that F statistic (26.446) with p-value (0.01) indicates that the regression model is perfectly fitted. Moreover in case of individual impact, ICR has a significant on ROE .Therefore, we accept hypothesis 3: H_1. In term of DER, it also has significant impact on ROE. Therefore, we accept alternative hypothesis 4: H_1.

TABLE 5: RESULTS OF MULTIPLE REGRESSION ANALYSIS (DEPENDENT VARIABLE ROE)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	VIF
	B	Std. Error	Beta			
(Constant)	8.050	11.484		1.033	.510	
ITR	-2.496	.871	-.629	-2.867	.029*	1.037
DTR	.505	.175	.623	1.037	.028*	1.004
ATR	-.461	.763	-.132	1.004	.568	1.033
R=0.849	R2=0.721	Adjusted R^2 = 0.582		F- statistic =5.181* (0.042)		Durbin Watson =1.286

*Significant at 5 per cent level.
Source: Compiled from published annual reports during the period of 2010-11 to 2019-20 and computed using SPSS 20.

It is found from the Table 5 that correlation coefficient between all predictors and outcomes variable decoding the strength of association by 84.90 %(R=0.84.90) followed by coefficient of determination which is decoding the 77.20 % (R^2 =0.772).which implies that the portion of variances on ROE is decoding by efficiency ratio. The Adjusted coefficient of determination is also decoding variance by 58.20% (Adjusted R^2 = 0.582) which implies modified explanatory strength of al selected efficiency ratio on ROE is 58.20%. Table also shows that F statistic (5.181) with p-value (0.042) indicates that the regression model is perfectly fitted. Moreover in case of individual impact, ITR has a significant on ROE .Therefore, we accept hypothesis 5: H_1.In term of DTR, it also has significant impact on ROE. Therefore, we accept alternative hypothesis 6: H_1.but on the other hand inter of ATR has not individually pay impact on ROE. Therefore, we accept null hypothesis 7: $H_{0.}$

VI. CONCLUSION

Present study shows that the company does not match the standard norms current ratio and quick ratio. Therefore, it is concluded that company ability to meet the present obligation is not satisfactory. So, the company should give attention toward enhance its liquidity position. To improve the liquidity position, the company either increases its current asset or reduces current liabilities. The company also focuses on profitability ratio because it is very much fluctuated in nature. Solvency ratio of the company is satisfactory that means company has the ability to pay its long-term debt as well as selected solvency ratio has significant impact on firm profitability ratio. Efficiency ratio indicates a significance impact on return on equity, theoretically it is concluded that company utilized their resources in proper way to earn profit.

LIMITATION OF THE STUDY

Present study mainly based on secondary data. This study focuses on only IOCL only. Therefore outcomes of the studies may not be generalized for other companies.

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