

An Empirical Analysis of Financial Performance of Selected Oil Exploration and Production Companies in India

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ABSTRACT

After the United States, China, and Japan, India was the world's fourth biggest consumer of oil and petroleum products. The nation is significantly reliant on crude oil imports, the majority of which come from the Middle East. The Indian oil and gas business is one of the country's six main sectors, with important forward links to the rest of the economy. More than two-thirds of the country's overall primary energy demands are met by the oil and gas industry. The industry has played a key role in placing India on the global map. India is now the world's sixth biggest crude oil user and ninth largest crude oil importer. In addition, the country's portion of the worldwide refining market is growing. India's refining industry is now the world's sixth biggest. With plans for Reliance Petroleum Limited to commission another refinery with a capacity of 29 MTPA next 16 to its 33 MTPA refinery in Jamnagar, Gujarat, this position is projected to be enhanced. As a consequence, the Reliance refinery would be the biggest single-site refinery in the world. Based on secondary data gathered from CMIE, the current research examines the ratios influencing the profitability of selected oil exploration and production businesses in India during a 10-year period.

Keywords-- Consumer of Oil and Petroleum Products, Middle East, Crude Oil Importer, Refining Industry, Reliance Petroleum Limited, Profitability, CMIE

I. INTRODUCTION

India, being a growing country and one of the world's biggest, is a significant importer of oil and petroleum products from Gulf countries. Despite the fact that our nation has a large oil resource, it is insufficient to meet our population's domestic demands. In recent years, there has been an inexorable increase in the price of gasoline, which has had a significant impact on transportation charges. Among the key economic sectors, the oil industry is one of the largest employers, employing thousands of people. Petroleum products represent 17 percent of export revenues, making them a major contribution to our country's GDP. Among the eight crore industries in our nation, the oil and gas industry is the most important. It has a significant role in influencing our country's economy. The Industrial Policy Resolution of 1954 established the groundwork for

India's oil and gas industry, with the government declaring petroleum to be the primary sector. In 2020-21, India will be the world's third biggest energy consumer of oil and gas, accounting for 4.81 percent of total global oil consumption and 1.41 percent of total global natural gas consumption.

Oil and gas firms have been around since 1867, when the first oil well was discovered in Digboi, Assam. The Assam Oil Company was founded in 1889. Previously, Burmah Oil firms controlled the industry. During the year of independence, foreign businesses dominated the oil and gas sector, which had a capacity of 250 lac tonnes per year. Oil India Limited (OIL) and Indian Oil Corporation (IOL), two Indian oil businesses, were founded in 1955. Indian Refineries Limited was founded in 1959. Major oil deposits are found in the underdeveloped areas of Mumbai High, Rajasthan, and the Bay of Bengal.

The ONGC, a government-owned firm founded in 1956, supplies almost 75 percent of India's oil demands. National Oil Companies met over 75 percent of the standards in the early 1970s (NOCs). Four Indian oil firms, including OIL and ONGC, have made significant measures to extract oil from several rivers in India, but local demand has not been satisfied. Following Liberalization Many differences were seen when the government implemented liberalization programs. Private businesses were also encouraged to explore oil reserves once the liberalization policy was implemented in 1991. Following the adoption of reforms in the years following 1990 and before 1994, the businesses were tasked with oil exploration. In 1997-98, the New Exploration and Licensing Policy (NELP) was implemented, resulting in substantial improvements in exploration and attracting a small number of private sector investments. The Ministry of Petroleum and Natural Gas controls the oil and gas business in terms of exploration, refining, distribution, marketing, exports, and imports, as well as saving oil resources to fulfill public demand. Gas and Authority of India Limited (GAIL), Bharat Petroleum Corporation Limited (BPCL), Hindustan Petroleum Corporation Limited (HPCL), Oil and Natural Gas Corporation (ONGC), and Indian Oil Corporation are the primary firms involved (IOC). The oil and gas sectors rely heavily on private sector corporations such as Adani Gas, Essar Oil Limited,

Shell, and BP. The refineries in India play a vital part in the exploration of oil and gas reserves since they are involved in the production of petroleum and gas.

II. REVIEW OF LITERATURE

Surender Kumar (2005) studied the impact of oil price changes on the Indian economy's industrial output development during a 30-year period starting in 1975. Vector auto regressions were employed to assess the impact of oil price variations on macroeconomic variables. He demonstrated that; first, stating oil prices in US dollars had a smaller effect than expressing them in Indian rupees (INR). Second, changes in oil prices cause an increase in industrial output. Third, rising real oil prices have a beneficial influence on the short-term interest rate and the rate of inflation. Finally, an oil price shock in a stable economy has a higher economic impact than one in an unstable pricing one.

Dr. Pratapsinh Chauhan (2012) selected seven public and private sector enterprises in India to analyze shareholder value generation in the petroleum industry from 2001 to 2011. For the empirical study, he employed EVA, MVA, PAT, EPS, NOPAT, and Market Capitalization. The data was analyzed using statistical methods such as descriptive statistics, correlation, T-test, and chi-square test for analyzing the increase and trend of value adds in terms of MVA and EVA. The findings reveal that firms in both the private and governmental sectors have favorable EVA and MVA. More crucially, EVA of both sectors' businesses demonstrated a substantial link with OP, EPS, NOPAT, Market Capitalization, and MVA. Furthermore, the findings show that both sectors performed admirably; nevertheless, the private sector petroleum businesses' MVA and EVA trends were stronger than those of the public sector. Finally, he came to the conclusion that MVA and EVA are strongly linked to the market capitalization of enterprises in both sectors.

Khatik and Thakur (2017) used selected criteria such as acid test ratio, current ratio, and debtors to sales ratio to examine the liquidity management and its influence on the profitability of ONGC in India. The relevant data was gathered from the company's annual reports for a period of ten years beginning in 2005, and the data was analyzed using the ratio analysis approach. ONGC Ltd's total liquidity condition was adequate throughout the study period, according to this analysis.

Using monthly data from 1996 to 2008, **Agusman & Deriantino (2005)** investigated the association between stock return and oil price variations in nine Indonesian industrial sectors. Oil price variations had little effect on the stock returns of the sectors studied, according to this research. However, although the government's move to liberalize domestic oil prices has a favorable and large influence on the mining sector's stock return, it has a negative and major impact on the trading sector's stock return. Furthermore, the

findings suggest that the increase in oil prices as a consequence of the government's liberalization policies has a negative and considerable effect on the infrastructure and consumer sectors. The data also show that, although the sensitivity of oil price fluctuations and stock returns in these sectors is asymmetric, a drop in oil price has little influence on these sectors' stock returns. As a result, it is possible to conclude that a drop in oil prices is not necessarily a sign of good news for investors.

Tayyaba (2013) investigated the association between various forms of leverage and EPS in 25 Pakistani oil and gas businesses. For the examination of data obtained from firms' official websites over a six-year period beginning in 2007, the researcher employed descriptive statistics, correlation, and regression. The researchers observed that whereas ROA and DFL have a positive association, ROA and DOL have an adverse relationship. The research also discovered an inverse association between ROI and DFL, as well as an inverse relationship between ROI and DOL. Furthermore, although there is a negative association between EPS and DOL, there is a positive link between DFL and EPS.

III. SAMPLING DEFINITION

For conducting the present study the researcher has selected three oil exploration and production companies listed in BSE And NSE including Reliance Industries, ONGC, and Oil India. The financial data for the same is extracted from CAPITALINE and CMIE for the period of 10 years from 2011-12 to 2020-21 and the relevant statistical tools have been applied

IV. OBJECTIVES

To study the influence of financial ratios on the profitability of selected oil exploration companies operating in India

Tools used: Multiple regression analysis and ANOVA

V. MULTIPLE REGRESSION ANALYSIS

Multiple Regression Analysis is a statistical method for predicting dependent variables by combining numerous independent variables. It's a functional connection between a dependent variable and many independent factors in which the impact of the independent variables on the dependent variables (profitability) is determined via analysis. The present research used this technique to seek for a new combination of factors that may explain the differences in profitability. In the chosen car industry organisations, Multiple Regression is used using current ratio as the dependent variable and all other factors as independent variables. Multiple regression analysis is utilised in this

research to determine the link between variables and the factor impacting profitability.

Table 1: Multiple Regression Analysis of the Selected Variables with the Ratio of Current Ratio – Reliance Industries

S.No.	Ratio of	Multiple Regression Co-efficient	t' value	p-value
X ₁	Quick ratio	.965	11.694	.000**
X ₂	Interest Coverage Ratio	.065	.767	.463
X ₃	Net working capital to sales	.105	1.030	.330
X ₄	Raw material turnover ratio	-.002	-.019	.985
X ₅	Debtors turnover ratio	.050	.372	.719
X ₆	Creditors turnover ratio	.126	1.263	.238
X ₇	Distribution expenses ratio	-.129	-1.458	.179
X ₈	Miscellaneous expenditure ratio	.027	.285	.782
X ₉	Operating expenses ratio	-.078	-.743	.476
X ₁₀	Net fixed assets turnover ratio	.013	.132	.898
X ₁₁	Debt to equity ratio	.025	.278	.787
X ₁₂	Inventory turnover ratio	-.001	-.017	.987

**significant at 1% level. * Significant at 5% level

Table 2: Anova

	Sum of Squares	df	Mean Square	F	p-val	S/NS
Regression	.363	1	.363	136.741	.000	S
Residual	.027	10	.003			
Total	.389	11				

**significant at 5% level. * Significant at 1% level S- significant NS – Not significant

Table 3: Model Summary

MODEL	R	R SQUARE
1	0.965	0.932

It is clear that, the multiple regression co-efficient values of Reliance Industries These presented values indicate that one variable is individually contributes significantly to variations in the current ratio when influence of other variables are kept constant. The t and Sig (p) values give a rough indication of the impact of predictor variable namely, Quick ratio (t- 11.694, p

0.00, $p < 0.01$). In connection with this, the R^2 value in terms of these variables is 93.2 percent. Overall ANOVA results, the p-value is less than the 0.01($p < 0.01$). Hence, this model is statistically significant. So Quick ratio has significant impact on profitability of Reliance Industries during the study period.

Table 4: Multiple Regression Analysis of the Selected Variables with the Ratio of Current Ratio – ONGC Ltd.

S.No.	Ratio of	Multiple Regression Co-efficient	t' value	p-value
X ₁	Quick ratio	.015	.325	.756
X ₂	Interest Coverage Ratio	.043	.488	.643
X ₃	Net working capital to sales	.667	9.469	.000*
X ₄	Raw material turnover ratio	.022	.331	.752
X ₅	Debtors turnover ratio	.033	.414	.693
X ₆	Creditors turnover ratio	.434	6.279	.000*
X ₇	Distribution expenses ratio	-.147	-2.379	.049**
X ₈	Miscellaneous expenditure ratio	.281	4.037	.005*
X ₉	Operating expenses ratio	.045	.685	.519
X ₁₀	Net fixed assets turnover ratio	.005	.075	.943
X ₁₁	Debt to equity ratio	.001	.009	.993
X ₁₂	Inventory turnover ratio	-.004	-.054	.959

**significant at 5% level. * Significant at 1% level

Table 5: Anova

	Sum of Squares	df	Mean Square	F	P-val	S/NS
Regression	.368	4	.092	165.704	.000**	S
Residual	.004	7	.001			
Total	.371	11				

Table 6: Model Summary

MODEL	R	R SQUARE
1	0.995	0.990

It is clear that, the multiple regression coefficient values of ONGC Ltd. These presented values indicate that three variables are individually contributing significantly to variations in the current ratio when influence of other variables are kept constant. The t and Sig (p) values give a rough indication of the impact of each predictor variable namely, Net working capital to sales (t 9.469, p .000 , p< 0.01), Creditors turnover ratio(t 6.279, p .000 , p< 0.01), Distribution expenses ratio(t -2.379, p .049, p< 0.05), Miscellaneous

expenditure ratio(t 4.037, p .005, p< 0.01). In connection with this, the R² value in terms of these variables is 99 percent. Overall ANOVA results, the p-value is less than the 0.01(p<0.01) except Miscellaneous expenditure .Hence, this model is statistically significant. So working capital to sales , Creditors turnover ratio , Distribution expenses ratio and Miscellaneous expenditure ratio have significant impact on profitability of ONGC during the study period.

Table 7: Multiple Regression Analysis of the Selected Variables with the Ratio of Current Ratio – India Oil Ltd

S.No.	Ratio of	Multiple Regression Co-efficient	t' value	p-value
X ₁	Quick ratio	.281	4.037	.005*
X ₂	Interest Coverage Ratio	-.101	-.760	.469
X ₃	Net working capital to sales	.105	1.030	.330
X ₄	Raw material turnover ratio	-.195	-1.160	.280
X ₅	Debtors turnover ratio	-.034	-.230	.824
X ₆	Creditors turnover ratio	.031	.263	.799
X ₈	Miscellaneous expenditure ratio	.122	1.041	.328
X ₉	Operating expenses ratio	-.062	-.203	.844
X ₁₀	Net fixed assets turnover ratio	-.196	-.600	.565
X ₁₁	Debt to equity ratio	-.093	-.702	.503
X ₁₂	Inventory turnover ratio	.222	.493	.635

**significant at 5% level. * Significant at 1% level

Table 8: Anova

	Sum of Squares	df	Mean Square	F	P	S/NS
Regression	.641	2	.321	38.961	.000	S
Residual	.074	9	.008			
Total	.715	11				

Table 9: Model Summary

MODEL	R	R SQUARE
1	0.947	0.896

It is clear that, the multiple regression coefficient values of **India Oil Ltd**. These presented values indicate that one variable is individually contributing significantly to variations in the current ratio when influence of other variables are kept constant. The t and Sig (p) values gives the indication of the impact of the predictor variable namely, Quick ratio (t 4.037, p .005, p< 0.01). In connection with this, the R² value in terms of these variables is 89 percent. From the overall ANOVA results, the p-value is less than the 0.01(p<0.01). Hence, this model is statistically significant So Quick ratio has significant impact on profitability of India Oil Ltd during the study period.

VI. CONCLUSION

Findings from oil exploration companies proves that, the companies have to concentrate mostly on the short term assets and short term liabilities to the utmost satisfaction of the productive operations. The cash and outsiders' funds are to be availed for the continuous flow of operations. The ratios which provides positive influence has the significance contribution in the financial performance of the selected oil production and exploration companies.

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