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Relationship between Capital Structure and Operating Profit- A Study on the Companies of the Indian Oil and Gas Sector.

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Capital structure is the proportion between Owner'sfunds and Borrowed funds, whereas operating profit represents the profits from business operations. The present study attempts to analyze the relationship between the capital structure represented by debt equity and the operating profit of ONGC, Oil India and PETRONET LNG- the companies in the Petroleum Industry. This industry, also known as the Oil Industry, includes global exploration, extraction, refining, and transportation processes. Fuel oil and gasoline (petrol) are the two biggest volume products.

The data for the study is secondary and has been taken from the Capitaline database. The findings of this study reveal that for the above companies, there is no relationship between the capital structure, expressed as debt to equity and the operating profit ratio.

KEYWORDS- Petroleum industry, Oil and Gas, Capital Structure, Operating Profit.

INTRODUCTION

Any company's capital structure is determined by the ratio of debt to equity, which is represented by both preference stock and equity. This is also known as the long-term funding mix of a company (Watson and Head, 2007). It is noteworthy that capital structure plays a crucial role and has long-term consequences. Since there is disagreement over the ideal capital structure, it is important to look at how debt use affects a company's long-term performance. Myer (2001) noted that as every theory is predicated on certain assumptions and beliefs, none of them can provide a comprehensive understanding of capital structure practice. Beyond operating and financial performance, several factors, such as the country's economic structure and interest rates also influence the choice of capital structure and should be carefully considered.

The Oil and Gas sector was funded by the government before the LPG policy of 1991.
Following the LPG Policy (Liberalization, Privatization, and globalisation),
Indian government let the private sector to enter the market in July 1991.
Additionally, the Indian economy and energy demand are strongly linked. As the country's needs for gas and oil are predicted to increase, investments are likely to become more favourable. The Indian government has implemented several measures aimed at meeting the growing demand for petroleum products. The government of India also fully authorized foreign direct investment in numerous industry sectors as a result of the rising demand for petroleum products in the coming years.

Oil andNatural Gas Corporation was founded in 1956 and is a Maharatna enterprise owned by the Indian government. As the largest oil business in India, ONGC is responsible for 70% of the nation's total oil production. Its primary focus is on the extraction of crude oil through its operations. Petronet LNG Limited (PLL) was established on April 2, 1998, as a Joint Venture Company (JVC) with a 50% interest in the top four Oil & Gas PSUs. A Maharatna Company, OIL is a state-owned enterprise of the Government of India, under the administrative control of the Ministry of Petroleum and Natural Gas and is the second-largest national oil and gas company in India.

LITERATURE REVIEW

In his research, Chakraborty (1981) concludes that the value of equity would be maximized by a prudent combination of debt and equity securities. A corporation's finance manager must design the best possible capital structure for the business to maximize profits and, consequently, shareholder wealth. The proportionate relationship between debt and equity is represented by the phrase "capital structure," according to Pandey (1984). A company's long-term debt, preference shares, common shares, reserves, and surpluses are often how it raises its permanent capital.

The impact of financial leverage on the profitability of Reliance Industries Ltd. has been researched (Chakrawal, 2021). The primary aim of the research was to conduct an analysis of financial leverage and investigate its influence on the profitability of Reliance Industries Ltd. Financial leverage is the independent variable that the researcher is examining, whereas the dependent variables are net profit ratio, earnings per share, return on assets, and return on equity. The secondary data was gathered from the company's financial statements between 2016–17 and 2020–21. Regression analysis and correlation have been chosen as statistical techniques for testing the hypothesis. The findings demonstrated a strong positive correlation between financial leverage and EPS, ROE, and ROA, but no meaningful correlation between financial leverage and NPR. The findings of the regression analysis indicated that, during the duration of the study, leverage had no discernible effect on Reliance Industries Limited's profitability.
Mehdi et al. (2013) investigated the connection between Iranian pharmaceutical companies' profitability and financial structure. Their findings demonstrated a strong inverse link between profitability. In his study of capital structure determinants, Bauer (2004) noted that a firm's capital structure is somewhat determined by its size, industry, taxation, and growth prospects. The study's conclusion that profitability and leverage have a negative relationship is debatable though.

RESEARCH OBJECTIVES

The primary objective of the current study is to find out the relationship between capital structure and operating profit of ONGC, Oil India and Petronet LNG. The period of study is from FY 2018 to 2022. These three companies were selected based on their market capitalization. Although, Reliance is the top company in this sector, that has not been taken into consideration, as its market capitalization is very high. The nature of the data for the study is secondary source. Debt equity ratio is the independent variable and Operating profit is the dependent ratio.

RESEARCH METHODOLOGY

The following are the three companies chosen for study:

I. ONCG

II. Oil India Limited

III. Petronet LNG

The data for the study was collected from the Capitaline database for a period of five years from 2018-2022. Regression analysis was carried out on the above information to find out the impact of Debt equity over the profitability measured in terms of operating profit.

DATA AND ANALYSIS

The study examined the impact of borrowed funds and owner’s funds on the operating profit of the above-said group of companies in the oil and gas sector. The present-day market capitalization of ONGC, Petronet LNG and Oil India is shown in Table 1 as on April 2024.

Table:1 Market capitalization of companies listed on NSE

Name of company	Market Capitalization (Rs in Crs)
ONGC	334,258.02
Oil India	66,262.58
Petronet LNG	45,817.50

Author's compilation

RESULT AND FINDINGS

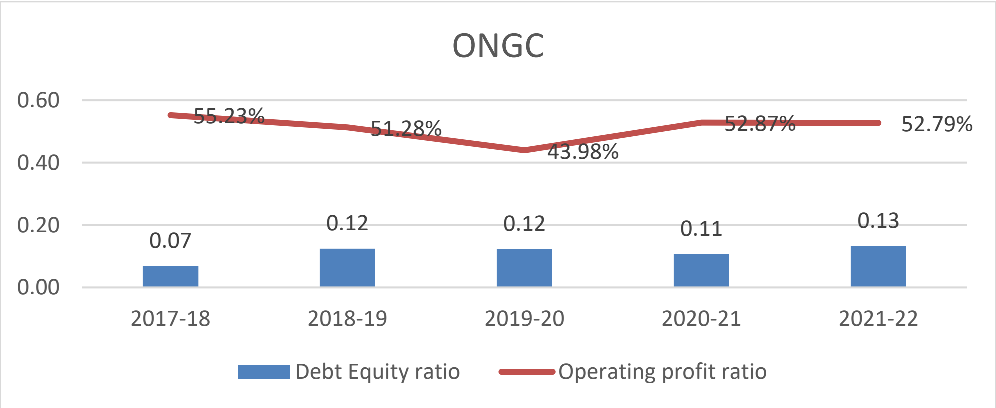
I. ONGC

Table 2: Debt-equity ratio and operating profit ratio of ONGC

Year	Debt equity ratio	Operating profit ratio
2017-18	0.07	55.23%
2018-19	0.12	51.28%
2019-20	0.12	43.98%
2020-21	0.11	52.87%
2021-22	0.13	52.79%

Author's compilation

Table 2 shows the debt-equity and operating profit ratios of ONGC for five years. It can be seen that for this company, the debt-equity ratio varies from 0.7 to 0.13, whereas the corresponding operating profit ratio varies from 43.98% to 55.23%.



A regression analysis was carried out on the above data and the following results were depicted:

Regression Statistics	
Multiple R	0.5254831
R Square	0.276132489
Adjusted R Square	0.034843318

Standard Error	0.024766663
Observations	5

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.000701964	0.000701964	1.144404816	0.363147242
Residual	3	0.001840163	0.000613388		
Total	4	0.002542127			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.269	0.148	1.817	0.167	-0.202	0.741	-0.202	0.741
X Variable 1	-0.309	0.288	-1.070	0.363	-1.227	0.609	-1.227	0.609

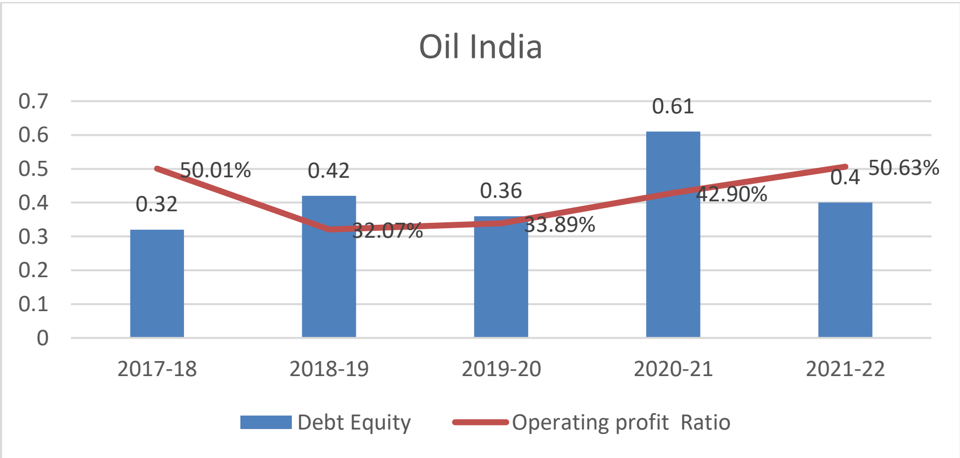
II. OIL INDIA

Table 3: Debt-equity ratio and operating ratio of Oil India

Year	**Debt equity ratio**	**Operating profit ratio**
2017-18	0.32	50.01%
2018-19	0.42	32.07%
2019-20	0.36	33.89%
2020-21	0.61	42.90%
2021-22	0.40	50.63%

Author's compilation

Table 3 is the compiled data for Oil India for debt-equity and operating profit ratios for five years. The range of debt-equity ratio varies from 0.32 to 0.61, whereas the operating profit ratio varies from 32.07% to 50.63% for the above company.



The regression analysis showed the following findings on the data of Oil India.

Regression Statistics	
Multiple R	0.080886992
R Square	0.006542705
Adjusted R Square	-0.324609726
Standard Error	0.128779322
Observations	5

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.0003	0.0003	0.0198	0.8971
Residual	3	0.0498	0.0166		
Total	4	0.0501			

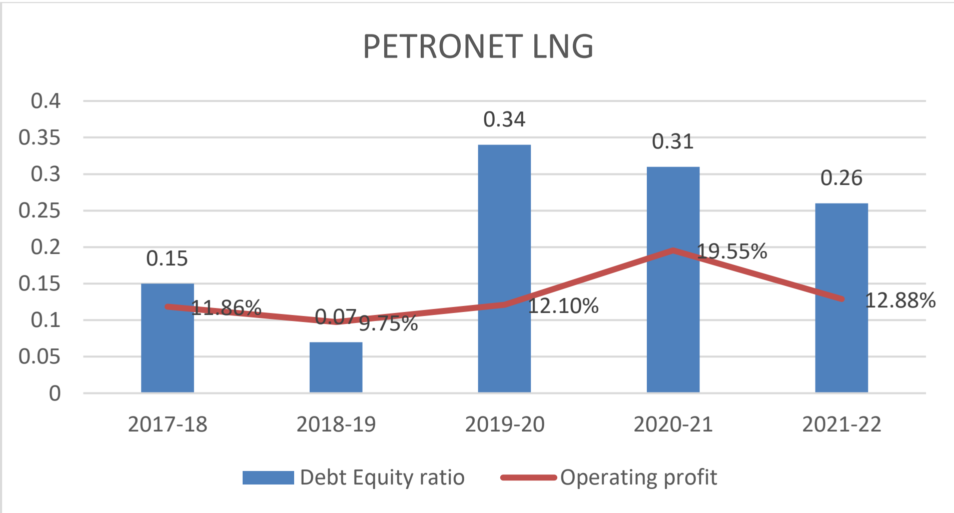
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.466	0.315	1.478	0.236	-0.537	1.468	-0.537	1.468
X Variable 1	-0.104	0.739	-0.141	0.897	-2.455	2.248	-2.455	2.248

III. PETRONET LNG

Table 4: Debt-equity ratio and operating ratio of PETRONET LNG

Year	**Debt equity ratio**	**Operating profit ratio**
2017-18	0.15	11.86%
2018-19	0.07	9.75%
2019-20	0.34	12.10%
2020-21	0.31	19.55%
2021-22	0.26	12.88%

Table 4 shows the debt-equity ratio and the operating profit ratios of Petronet LNG. The debt-equity ratio is in the range of 0.07 to 0.34 and the operating profit ratio ranges from 9.75% to 19.55%.



Regression Statistics	
Multiple R	0.61541686
R Square	0.378737911
Adjusted R Square	0.171650549
Standard Error	0.103090851
Observations	5

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.01943683	0.01943683	1.828879881	0.269168514
Residual	3	0.03188317	0.010627723		
Total	4	0.05132			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-0.022	0.189	-0.116	0.915	-0.624	0.580	-0.624	0.580
X Variable 1	1.874	1.386	1.352	0.269	-2.536	6.285	-2.536	6.285

INTERPRETATION

The value of R2 for ONGC is 0.027; that of Oil India is 0.006 and Petronet LNG is 0.378. According to the above, the variables have no significant relationship, i.e. the debt-equity ratios of all three companies have no impact on the operating profitability of the organisations.

CONCLUSION AND RECOMMENDATIONS

The scope of the study is limited to only three companies in the oil and gas sector. Future research can be done on taking more companies. In addition, the analysis of the company's regional performance can also be considered.

The extent and direction of the capital structure decision's influence on profitability are examined in this study. Merely keeping loan capital in the capital structure and making money from trading on equity is insufficient. Finance managers, however, frequently decide to finance assets based on their goals, regardless of the advantages or disadvantages of the relevant source.

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