# A study of financial performance of public sector oil and gas companies of India: A comparative analysis

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## INTRODUCTION

The global processes of petroleum product discovery, extraction, refining, transportation (typically through oil tankers and pipelines), and marketing are collectively referred to as the petroleum industry, often known as the oil industry or the oil patch. Fuel oil and gasoline make up the majority of the industry's volume products (petrol). Petroleum (oil) is also used as a starting point for a wide range of chemical products, such as polymers, fertilizers, insecticides, solvents, medicines, and synthetic scents. Oil and its by products have an extremely high monetary worth, earning them the nickname "black gold." Upstream, midstream, and downstream make up the industry's three main divisions. Petroleum is a crucial issue for many nations since it is essential to many sectors and is required to maintain industrial civilisation in its current form.

Every business activity, including that of corporations, individuals, and all other forms of economic activity, depends on finance. In business, particularly in firms, finances are crucial. They ought to be accessible at the appropriate moment. If they are late, it will have a very negative impact on the company. Enterprise economic activity is aided by timely credit that is of the right kind, amount, and composition. Economic activity is hampered by credit restrictions. Therefore, having sufficient financing is crucial for business as usual. Financial performance analysis makes it possible to compare the performances of individual companies with those of other companies in the same sector or across other industries as well as to gauge the financial health of the company over time.

Financial performance analysis, which measures the degree to which any entity's financial goals have been met, is one of the key components of financial risk management. It also covers the monetary evaluation of the strategies and practices of any company. The financial statement is examined and evaluated in a way that makes it easier to diagnose profitability and determine whether or not the company is financially stable. Analyzing a company's financial statements may reveal a lot about its operations, performance, and financial standing.

## LITERATURE REVIEW

One of the best ways to convey financial information is through financial statements, which are used to describe a company's financial statistics. Thus, financial data must be recorded and summarized by accounting information systems.

Financial analysis heavily depends on wise decision-making, according to Hermanson (1992:846). Ratios and percentages make it easier to compare and spot potential weaknesses and strengths. The basic reasons of shifts and established patterns should be looked into by finance. By attempting to examine the assets and liabilities, D.C. Gohil (2006) sought to investigate the financial performance of two significant firms in the petroleum business, IOCL and BPCL. Burange and Shruti Yamini (2009) examined the performance of the Indian cement industry as well as the boom brought on by the sector's development of investment and industrial activity, which contributed to the general growth of the Indian economy.

A study on "An Empirical Test of Financial Ratio Analysis for Small Business Failure" was undertaken by Robert O. Edmister in 2009. In order to forecast the collapse of small businesses using financial ratio analysis, many approaches were created and empirically evaluated in this study.

Mabandla and Makoni (2019) used a sample of 12 of the 18 food and beverage businesses listed on the Johannesburg Stock Exchange (JSE) in South Africa from 2007 to 2016 to research the relationship between working capital management and company financial performance. The return on assets (ROA) was the dependent variable in their study, while the inventory

conversion period (ICP), average collection period (ACP), and average payment period (APP) were the independent factors. The size of the firm, the current ratio (CAR), and the GDP were the control variables.

Prasanta Paul (2011) made a statement on the assessment of financial performance taking into account some of the chosen NBFCs. Five of the NBFCs on the study's list are taken into account when comparing financial performance. Numerous statistical techniques are employed, including standard deviation, arithmetic mean, correlation, and others.

The link between working capital (Cash Conversion Cycle and Quick ratio), profitability as determined by Return on Assets (ROA) and Return on Equity (ROE), and market value as determined by Price Earnings Ratio (P/E) and Price per Book Value Ratio (P/BV) is examined by Puriboriboon (2020).

## OBJECTIVES OF THE STUDY

Current research focuses on these research endevours

- To comparatively analyses the financial performance of selected petroleum oil and gas companies of India
- To analyse the financial strength and weakness of selected public and private sector petroleum companies of India.

## HYPOTHESIS OF RESEARCH STUDY

H0 = There is insignificant difference in financial performance of selected petroleum companies of India.

H1 = There is a significant difference in financial performance of selected petroleum companies of India.

Research Methodology:- Research technique may be defined as a way for methodically addressing a research topic. It also refers to the process of acquiring data for a study. The research methodology includes research methodologies, criteria for selecting research methods, their application in the context of the study, and an explanation of why one method or approach was employed and another was not in order to assess the research outcomes.

Secondary data, such as budgets, statistical reports, annual reports, financial statements, balance sheets, profit & loss accounts, and their schedules are obtained to achieve the intended objectives. All information acquired from the yearly reports of Hindustan Petroleum Corporation Limited and Indian Oil Corporation Limited was analyzed, interpreted, and tabulated.

## DATA ANALYSIS

## PROFITABILITY RATIO

Gross profit margin is a way for analysts to measure a company's financial health by figuring out how much money is left over from sales after the cost of goods sold has been taken out (COGS). Gross profit margin is often shown as a percentage of sales and is sometimes called the gross margin ratio.

| GROSS PROFIT RATIO (%) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| COMPANY | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| BHARAT PETROLEUM | 3.14 | 3.78 | 3.41 | 2.63 | 3.24 | 3.67 | 4.42 | 6.90 | 5.55 | 5.30 |
| CHENNAI PETROLEUM | -0.35 | 4.36 | 4.02 | 1.12 | -1.99 | 1.27 | -0.27 | 5.24 | 4.87 | 4.81 |
| INDIAN OIL CORPORATION | 4.31 | 7.57 | 5.39 | 4.97 | 3.86 | 4.02 | 3.27 | 6.37 | 8.08 | 8.51 |
| OIL AND NATURAL GAS CORPORATION | 59.31 | 66.02 | 67.13 | 53.63 | 46.92 | 51.68 | 45.87 | 48.69 | 49.58 | 52.79 |
| OIL INDIA | 55.65 | 59.74 | 63.43 | 62.05 | 61.56 | 58.84 | 49.26 | 51.11 | 50.32 | 50.63 |

Table 1. Gross profit ratio
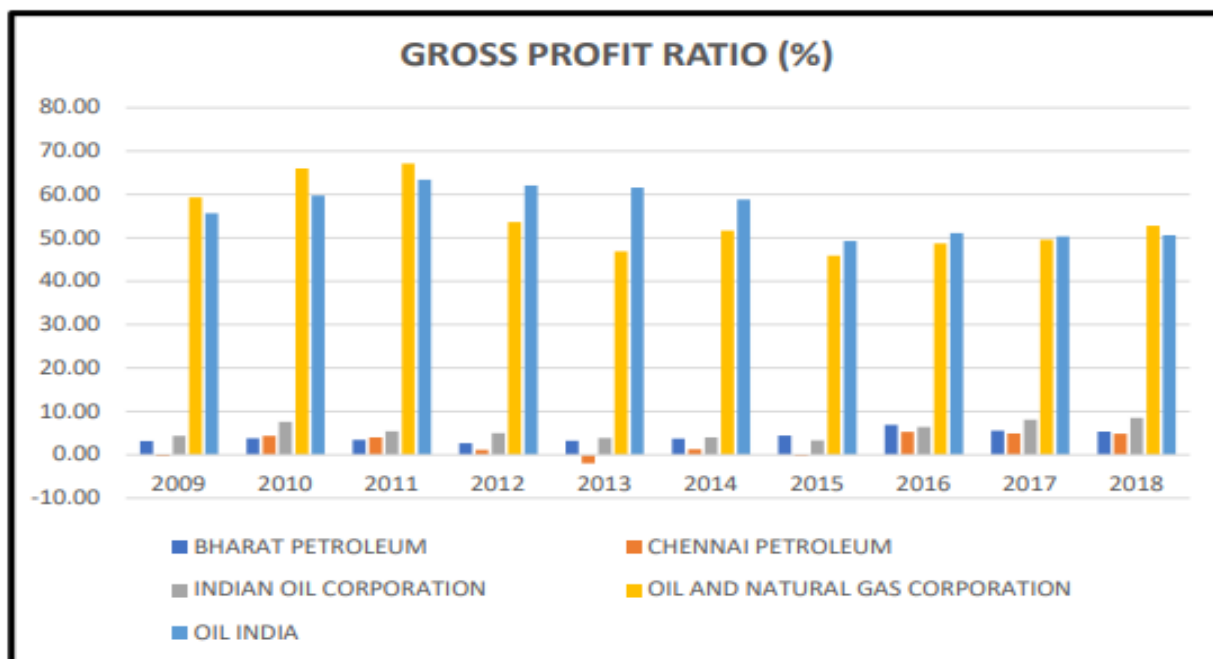
Graph 1. Gross profit ratio

ANOVA table of GPR

| Source of Variation | SS | df | MS | F | P-value | F crit |
|---|---|---|---|---|---|---|
| Between Groups | 31487.92 | 4 | 7871.979 | 392.8755 | 2.31E-34 | 2.578739 |
| | 901.6574 | 45 | 20.03683 | | | |
| Total | 32389.57 | 49 | | | | |

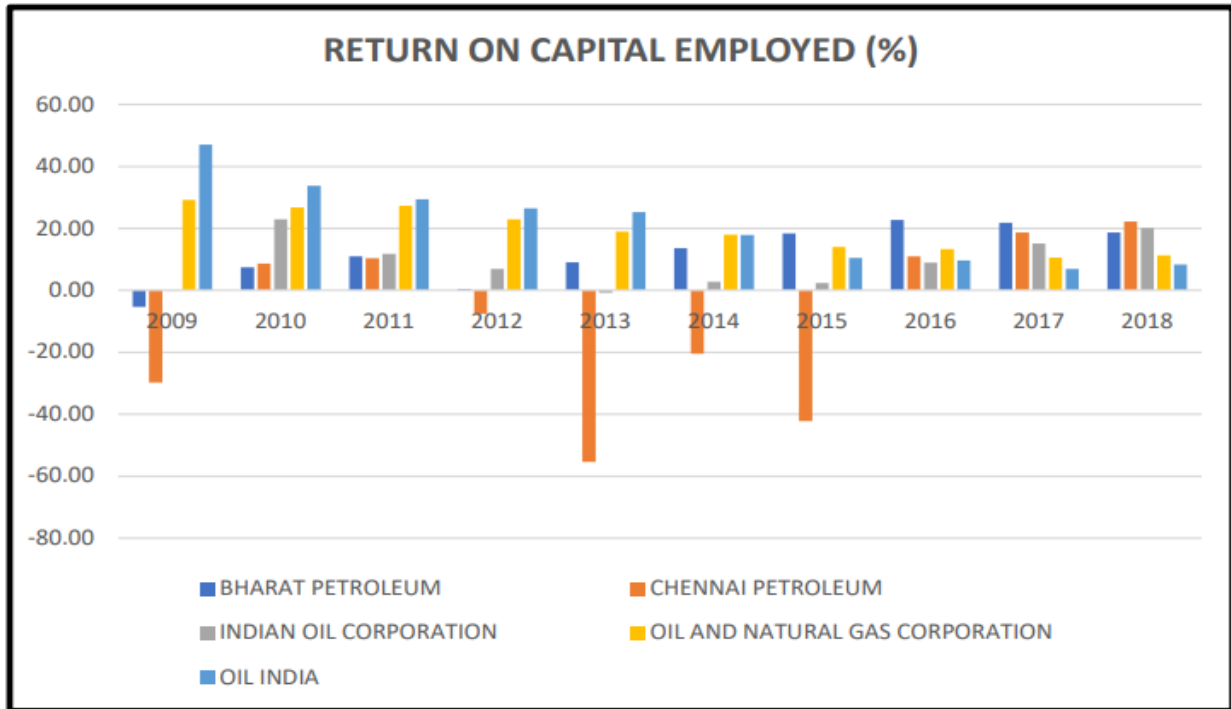From above table for 4 and 45 degree of freedom. Fcal is 392.8755 and Ftab is 2.578739. Thus, Fcal > Ftab and p-value is less than specified α of 0.05. Therefore, Null Hypothesis is rejected and it is concluded that there is significant deference in Gross Profit Ratio between selected oil companies in India.

RETURN ON CAPITAL EMPLOYED

Return on capital employed (ROCE) is a financial ratio that measures a company's profitability and the efficiency with which its capital is used. In other words, the ratio measures how well a company is generating profits from its capital. The ROCE ratio is considered an important profitability ratio and is used often by investors when screening for suitable investment candidates.

Table. 2 Return on capital employed

| RETURN ON CAPITAL EMPLOYED (%) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| COMPANY | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| BHARAT PETROLEUM | -5.29 | 7.42 | 10.94 | 0.45 | 9.10 | 13.56 | 18.42 | 22.78 | 21.77 | 18.70 |
| CHENNAI PETROLEUM | -29.73 | 8.61 | 10.33 | -7.52 | -55.39 | -20.43 | -42.20 | 10.99 | 18.72 | 22.18 |
| INDIAN OIL CORPORATION | -0.01 | 22.97 | 11.80 | 6.94 | -0.77 | 2.72 | 2.36 | 8.92 | 15.18 | 20.10 |
| OIL AND NATURAL GAS CORPORATION | 29.18 | 26.82 | 27.25 | 22.92 | 19.00 | 18.00 | 14.06 | 13.33 | 10.52 | 11.32 |
| OIL INDIA | 47.00 | 33.73 | 29.38 | 26.52 | 25.29 | 17.87 | 10.48 | 9.68 | 6.90 | 8.31 |

Graph.2 Returm on capital employed

ANOVA table for ROCE

| Source of Variation | SS | df | MS | F | P-value | F crit |
|---|---|---|---|---|---|---|
| Between Groups | 5603.738 | 4 | 1400.935 | 6.286523 | 0.000416 | 2.578739 |
| | 10028.13 | 45 | 222.8473 | | | |
| Total | 15631.87 | 49 | | | | |

From above table for 4 and 45 degree of freedom. Fcal is 6.286523 and Ftab is 2.578739. Thus, Fcal > Ftab and p-value is less than specified α of 0.05. Therefore, Null Hypothesis is rejected and it is concluded that there is significant difference is seen in Return on Capital Employed Ratio between five selected oil companies.

EARNINGS PER SHARE RATIO

The earnings per share ratio (EPS ratio) measure the amount of a company's net income that is theoretically available for payment to the holders of its common stock. A company with high earnings per share ratio is capable of generating a significant dividend for investors, or it may plow the funds back into its business for more growth.

Table.3 EPS

| EARNINGS PER SHARE RATIO | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| COMPANY | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| BHARAT PETROLEUM | 20.35 | 42.53 | 42.78 | 36.27 | 36.55 | 56.16 | 70.32 | 102.78 | 61.31 | 40.26 |
| CHENNAI PETROLEUM | -26.68 | 40.51 | 34.35 | 4.15 | -118.65 | -20.4 | -2.62 | 48.96 | 69.15 | 61.31 |
| INDIAN OIL CORPORATION | 24.3 | 42.1 | 30.67 | 16.29 | 20.61 | 28.91 | 21.72 | 42.83 | 40.31 | 22.52 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **OIL AND NATURAL GAS CORPORATION** | 75.19 | 78.39 | 22.12 | 29.36 | 24.46 | 25.83 | 20.73 | 18.71 | 13.95 | 15.54 |
| **OIL INDIA** | 101.01 | 113.78 | 120.09 | 57.34 | 59.71 | 49.59 | 41.76 | 38.76 | 19.32 | 23.32 |
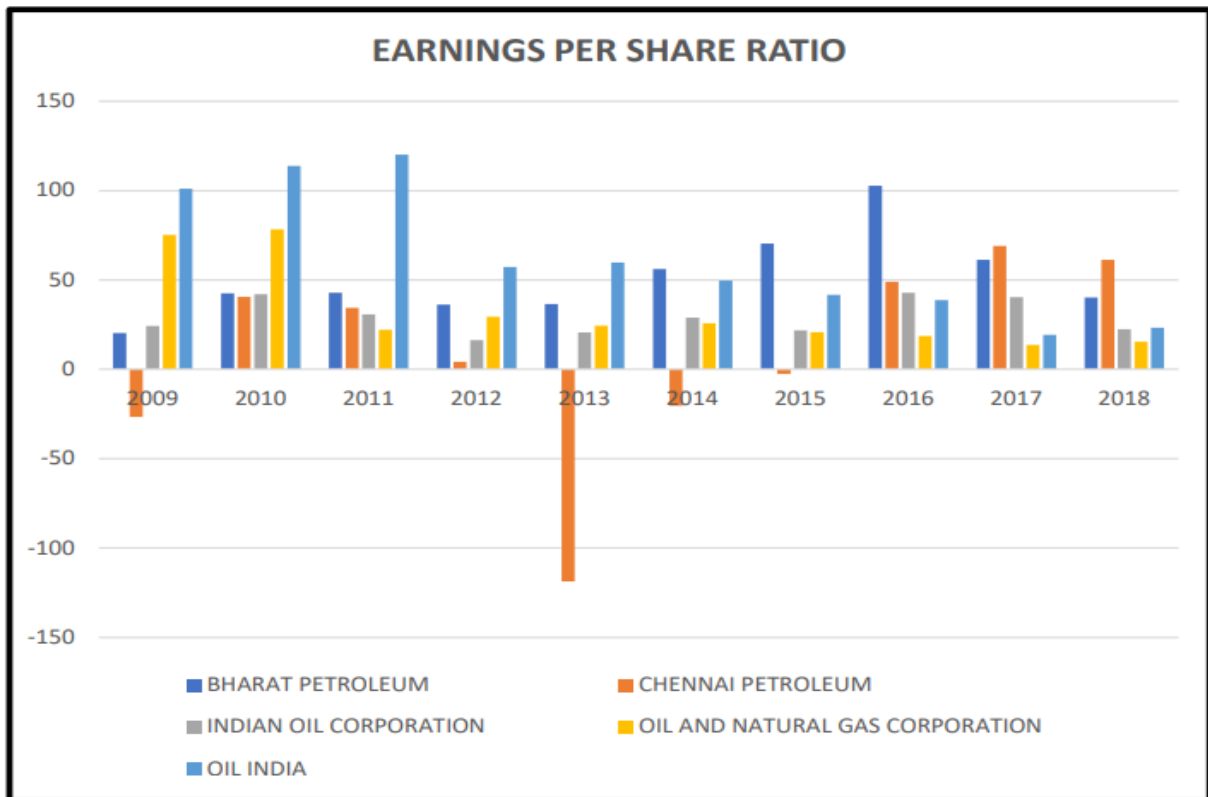


Graph.3 EPS

ANOVA table for EPS

| *Source of Variation* | *SS* | *df* | *MS* | *F* | *P-value* | *F crit* |
|---|---|---|---|---|---|---|
| Between Groups | 17104.72 | 4 | 4276.181 | 3.775616 | 0.009892 | 2.578739 |
| | 50966.02 | 45 | 1132.578 | | | |
| Total | 68070.74 | 49 | | | | |

From above table for 4 and 45 degree of freedom. Fcal is 3.775616 and Ftab is 2.578739. Thus, Fcal > Ftab and p-value is less than specified α of 0.05. Therefore, Null Hypothesis is rejected and it is concluded that there is a significant difference is seen in Earnings per Share Ratio between selected oil companies.

CONCLUSION

From the above results It can be said that Oil India Company, with an average Gross Profit Ratio of 56.26, was in first place, followed by Oil and Natural Gas Corporation, with an average ratio value of 54.16. Chennai Petroleum was in last place with an average gross profit ratio of 2.31, indicating that they operate in the least effective manner. Most oil businesses had successful years in 2016 and 2017, and most also had successful years in 2011 and 2018 with respect to performance and gross profit ratio. Oil and Natural Gas Corporation and Oil India Company are successful profit-making companies, while Bharat Petroleum and Indian Oil Corporation should continuously work to deliver their best performances. Chennai Petroleum, on the other hand, should try to

manage its cost of sales well in order to strive for success, as investors are more likely to pay more for a company with a higher gross profit.

From the results It can be said that Oil India Company ranked first with an average Return on Capital Employed Ratio of 21.52, followed by Oil and Natural Gas Corporation with an average ratio value of 19.24.Chennai Petroleum was in last place with an average Return on Capital Employed Ratio of -8.44, which shows that they were not effectively using their capital to produce high profits. The majority of oil firms produced strong profits in the years 2016 and 2011 by efficiently using their capital, however in the years 2010 and 2018 the majority of oil companies performed well with favorable Return on Capital Employed Ratios. While Bharat Petroleum and Indian Oil Corporation should continually work to deliver the best performances, and Chennai Petroleum, with an effective management strategy and properly utilizing capital, increasing sales and lowering expenses, try to strive out good performance, the Oil and Natural Gas Corporation and Oil India company are earning good profit by effectively using their capital.

Oil India Company, with an average Earnings per Share Ratio of 62.47, came in first, followed by Bharat Petroleum, with an average Earnings per Share Ratio of 50.93. The fact that Chennai Petroleum was in last place with a 9.01 average Earnings per Share Ratio shows that the company was not making good earnings. While the majority of oil firms also had strong profitability and good Earnings per Share Ratio in the years 2010 and 2018, they did not achieve the same level of success as they did in 2016 and 2017. Oil And Natural Gas Corporation and Indian Oil Corporation should continuously work to maintain the level and reach new heights by giving their best performances. Chennai Petroleum should have a strong management in order to effectively generate higher earnings so that it has more profit to distribute to its shareholders or re-invest in the business for its growth. Oil India and Bharat Petroleum Company are producing good profits.