Comparative Analysis of Oil Companies in India

Abstract

The study aims to create a methodology to measure the relevance of changes in ratios and stock returns. Oil and gas being a prime resource of energy are one of the major drivers for economic growth and the key ingredient to sustainable development. But, the industry faces challenges with numerous negative factors, among which influential are price, government regulation, supply and demand, and geological conditions which hampers the performance of the company. The central aim of the study is the performance evaluation of major oil companies and analyse the comparative financial performance of Indian oil companies like Indian Oil Corporation Ltd, Hindustan Petroleum Corporation Ltd, Oil India Ltd, Oil and Natural Gas Corporation Ltd, Essar. The period under study (2016-2019) is known for several volatilities and has remained one of the key themes in the business environment. While the demand for oil in major countries declined, and prices of crude oil fall affecting the emerging economies. We have followed the methodology where weightage is assigned to ratios based on the survey. The paper aims to examine the correlation between changes in the performance of the company to earnings of shareholders.

**Keywords**: Methodology, Ratios, Stock return, Financial performance, Correlation, Survey, Earnings of Shareholders.

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# Introduction

Oil and Gas industry is one of the most critical industry which affect the health of the economy both globally and nationwide because of its unique combination of attributes, i.e. oil and gas are the global commodities. As they are shipped all over the world, global supply and demand determine the prices of these commodities. Due to the irregular accumulation of oil reserves around the globe, the reserves are restricted to some countries. The other countries not meeting per capita demand for oil reserves are bound to import from the countries having an abundance of oil reserves. Increase in the population leading to higher consumption of fuel and petroleum products, further increasing dependence on Imports. The following are the major importers and exporters of crude oil:

Figure 1: Importers

(Source-worldstopexports.com, 2019)

Figure 2: Exporters

(Source-worldstopexports.com, 2019)

## 1.1 OPEC and Non-OPEC countries

The Organization of Petroleum Exporting Countries is a permanent intergovernmental organization. Currently, there are 14 countries. The organization aims to coordinate, unify the petroleum policies and stabilize the oil markets to provide an efficient, economic and regular supply of petroleum to consumers. According to the oil and gas technical report, 79.4% of oil reserves are locating in OPEC member countries, with the bulk of oil reserves in the Middle East. OPEC produces 42% of the world's crude oil output. The OPEC tries to influence the prices through its price volume strategy- the absence of sources of energy and a lack of a viable economic alternative. The cartel has the world's lowest barrel production cost.

Non-OPEC countries are countries that hold the world's Oil production outside OPEC. Non-OPEC countries such as the USA and Russia are the primary producer of oil-producing 13000-18000 barrels per day. These countries are not bound by the agreements of OPEC and profoundly influence the prices of oil.

## 1.2 Indian Economy

The Oil and Gas Industry is classified in Upstream (Production), Downstream (Refining), and Midstream (Operational) segments, where India has estimated Crude Oil Reserves of 594.49 Million Metric tonnes. World’s Oil Production estimates to 2.92 Lac Million barrels out of which, Indian Oil Industry accounts for 0.92%, i.e., 2398.05 Million Barrels Production. India has natural gas production of 32.06 Billion Cubic Meters (BCM). Annual oil consumption is 4.69 million per day, and natural gas is 54.20 BCM. Key players, including the public sector and private sector, are actively involved in the oil and gas industry. Private companies own 35.36% of the total refining capacity of 249.40 m, whereas, State-owned ONGC dominates the upstream segment accounting for 58.26% of the country's total output (FY20)

Figure 3: Oil and Gas Production in India(IOCL Annual Report, 2018-19)

# 2. Literature Review

Since the global financial recession from the second half of 2008, worldwide oil companies are facing a severe economic environment, which had shown a steep fall in energy investment, weakening final demand and falling cashflows. The same countries that pushed up the price of oil in 2008 with their ravenous desire helped bring oil prices down in 2014. China, whose rapid growth and an unquenchable thirst for oil declined.

Oil prices crashed more than 9% as major producing nations failed to agree on supply cuts aimed at addressing the collapse in global demand caused by the coronavirus outbreak. At the same time, along with crisis, the oil and gas industry had undergone through series of events associated with many environmental, social and political issues such as oil spills, civil unrest in some region as the Middle East and Russia.

The main subject for discussion is the effect of Crude oil prices on macroeconomics, the impact of the stock return on the market. Today, the impact of crude oil prices on the economy is known by numerous studies each is developing a special relationship between costs, economic and financial factors.

On the other hand, concerned to oil producers, it was noticed that limited studies are devoted to integrated oil company’s performance where Lameira (2012) and Olivier (2014) conducted studies by applying standard financial ratios and multiple regression analysis about price volatility showing the negative effect of the financial crisis on oil companies. The same prospects have also been shared by Simkins B.J(2013), where he believes that "any other analysis in the oil and gas industry is grossly inadequate unless the energy ratio analysis is implemented".

According to Drake (2010), financial statement analysis is the selection, evaluation, and interpretation of financial data, along with other pertinent information, to assist in investment and business decision-making. Megginson, Nash and Randenborgh (1994), Earle and Estrin (1997), Singh, (1995), and Deventer and Malatesta (1998) followed ratio analysis for the evaluation of the financial and operating performance of selected companies. The following are the key ratios for the oil and gas industry:

Table 1: Key Ratios of Oil and Gas Industry

|  |  |
| --- | --- |
| Key ratios | Importance |
| Debt / Equity | It measures the degree to which a company is financing its operations through debt versus wholly-owned funds. |
| Interest Coverage Ratio | The interest coverage ratio is used to determine a firm's ability to pay off its interest liabilities on outstanding debt |
| Return on Equity | ROE is a measure of profit relative to its shareholder equity. |
| Return on Assets | ROA shows how profitable a company’s assets are in generating revenues. |
| Profit Margin on Sales | Profit Margin on Sales is the most significant matrix to analyse the company's profitability. |
| Cash Accrual Ratio | The Cash Accrual Ratio is a way to identify firms with low non-cash or accrual-derived earnings relative to their cash flow. |

(Investopedia.com, 2018)

The task of managing the interest of shareholders have remained one of the critical aspects in determining the Returns on Stock. The rising pressure on Performance of the company is directly proportionate to the returns in the stock market.

As found in the literature that sound financial doesn't show the efficiency and management of the company. However, to understand the real performance, correlation with stock return indicator is assessed.

Table 2: Parameters

|  |  |  |
| --- | --- | --- |
| Ratios | Correlation | Analysis |
| Debt/Equity | Price Earnings Ratio,  EPS | The various ratios of the company are impacting both PE Ratio and Earnings per share of the companies. |
| Interest Coverage Ratio |
| Return on Assets |
| Return on Equity |
| Net Cash Accrual Ratio |
| Profit Margin on Sales |

# 3. Industry Scenario

The World’s dependence on oil and gas is increasing as global economies and infrastructure continue to rely heavily on petroleum-based products. The oil and gas sector contributes15% to the GDP of India. With a high rate of economic growth, India has become a significant consumer in the world and the largest refiner in India. The most massive volumes of products of the oil and gas industry are fuel oil and gasoline(petrol). Petroleum is the primary material for a multitude of chemical products, including pharmaceutical, fertilizer, solvents, and plastics. The oil and gas global supply-chain includes activities such as domestic and international transportation, ordering and inventory visibility and control, import and export facilitation, and information technology.

The oil and gas supply chain are analysed through three different industry sectors:

Figure 6: Industry Sector of Oil and Gas Supply

* **Upstream**- The Upstream sector is responsible for finding crude oil and natural gas deposits. It includes all the activities, including drinking well, trucking supplies, and environmental research. Major companies such as ExxonMobil, BP, Shell have integrated into upstream activities.
* **Midstream**- Midstream segment in the oil and gas supply chain, includes operations such as processing, storing, transporting, distribution of oil and gas. Significant companies are RIL, IOCL, HPCL, Essar oil, etc.
* **Downstream**- Downstream refers to the filtering of raw materials. It means a refining of oil and purification of gas along with this marketing and distribution of these products in the form of natural gas, gasoline, lubricants, jet fuel, etc. Major companies involved are IOCL, BPCL, Shell, etc.

# 4. Market scenario

In FY 2018-19 and FY 2019-20, Indian economy and also the International Markets have been through many unexpected highs and lows due to rising global and financial volatility, trade disputes, etc. International disbalance and chaos have caused approx. 20% fall in Crude Oil Prices and much abysmal price targets are estimated in the near future. In India, the Price fall is considered to be repercussions of fall in the automobile sector, International oil trade policies, International disputes and price wars, and most importantly, Covid-19 pandemic outbreak. The viral disease outbreak has affected the largest Oil importers, locked out major transport facilities and manufacturing activities around the world due to which the demand crashed, and so did the oil prices, to establish equilibrium, supply cuts and price drops are strategies opted by Exporting countries. The Equity markets across the globe are also following crashing trends of oil due to fear of global recession and slowdown having an adverse impact on economies. In this situation of crises, India has an advantageous position like other crude oil importers. As the prices are falling, India is building a strategic petroleum reserve which can meet the country's demand of 9.5 days.

Figure 7: Factors for the Growing Industry

## 4.1 Drivers of oil price globally

Figure 8: Reasons for the volatility of Oil Prices

Technology: The development and application of advanced technology is vital to the modern industry task of finding and developing oil and gas resources. The reservoirs are covered with thousands of feet of rock that makes it difficult to "see" the deposits. But the development of three-dimensional (3D) seismic, coupled with significant increases in computational power allow the industry to develop fairly accurate models of the subsurface.

Political issues: The geopolitical battle is no longer over access to resources but about global market share. With lower incomes, governments in oil producing countries can no longer lavish subsidies and other perks on their local populations. This might lead to domestic instability and repression– although it might also drive reforms in some producing countries desperate to shore up strained budgets and diversify away from oil.

Natural Causes: Burning of fossil fuel-oil, coal, and gas is one of the biggest challenges affecting climate change. Extreme weather conditions, rising oceans, and high temperatures are the major issues. The government has encouraged to shift to the use of renewable resources. In budget 2020, Govt has removed 20% import duty, which was imposed earlier.

# 5. The Government Framework

* The Oil and Gas industry in India is strictly regulated by the Ministry of Petroleum and Natural Gas, Government of India subject to each link in the chain from an exploration of crude oil to its distribution. There are several leading public sector and private sector companies. The pricing of petroleum is regulated by The Petroleum and Natural Gas Regulatory Body (PNGRB).
* Under this framework VAT and Excise duty have been levied on the oil industry currently on an average 25% VAT collected by the State Govt along with Excise Duty levied on standard petrol is Rs 19.48. In contrast, on branded gasoline, it is Rs 20.66. The price of oil is determined based on the cost of crude oil, taxes imposed by the central and state governments along with the dealer's commission, and the consumer is charging the VAT. As taxes on fuel is the primary source of revenue for Government, the input tax credit is taken by the Government itself because of this. The Government is not taking the oil industry in the GST regime. Currently by charging such tax Govt is yearly earning Rs 20000 cr. of revenue.
* The government has encouraged to shift to the use of renewable resources. In budget 2020, Govt has removed 20% import duty, which was imposed earlier.

# 6. Major Companies

## 6.1 BPCL

BPCL was incorporated on November 3, 1952, as a private limited company with the name Burmah Shell Refineries Ltd. On January 24, 1976, the Burmah Shell Group of Companies was taken over by the Government of India to form Bharat Refineries Ltd. On August 1, 1977, the company was renamed Bharat Petroleum Corporation Ltd.

BPCL operates in the petroleum industry in India. They are engaged in the exploration and production of hydrocarbons. BPCL regularly imports its LPG requirements mainly from the Middle East. The import requirements include Gasoil, Kerosene, Gasoline, and Base oil. The company refineries consist of Mumbai Refinery, Kochi Refinery, Numaligarh Refinery, and Bina Refinery. Currently, NBPCL has a 20-21% market share in India.

Figure 3: Refinery Throughput

(BPCL Annual Report, 2018-19)

## 6.2 IOCL

Indian Oil Corporation Limited, owned by the Government of India, is an oil and gas company, headquartered in New Delhi. It is the largest commercial oil company in the country; it retained the top spot for the highest-ranked PSU in Fortune "Global 500" list in 2019. The operating revenues of IOCL have been rising at a rate of 4.89% CAGR. Indian Oil's business interests encompassing the entire hydrocarbon value chain- from refining, pipeline transportation & marketing to exploration & production of crude oil & gas, petrochemicals, gas marketing, alternative energy sources, and globalization of downstream operations. Indian Oil accounts for nearly half of India's petroleum products market share, with sales of about 90 million tonnes in 2018-19. Over 32% of national refining capacity and 71% downstream sector pipelines throughput capacity are with Indian Oil.

Figure 4: Crude Oil Import 2018-19

(IOCL Annual Report, 2018-19)

## 6.3 Reliance Petroleum Ltd.

Reliance Petroleum Ltd. operating under Reliance Industries Ltd. is one of the most significant contributors to the Oil Industries in India. The company was founded in 2008, having headquarters in Ahmedabad, Gujarat, India, today has a countrywide operational network of 1,372 retail fuel outlets and 30 Aviation Fuel Stations.

The Jamnagar Refinery owned by Reliance Industries is the World’s largest Oil Refinery having an aggregate refining capacity of 1.24 MBPD. Despite ownership, Reliance is also participating in multiple National & International Ventures.

Reliance had 30% share in an unincorporated joint venture with BP Group (30%) and ONGC (40%) to operate in Panna Mukta Tapti in the region of Gulf of Khambhat (6% of India's oil production)

Also has Joint ventures in North American shale plays Pioneer Natural Resources and Chevron

**Current Strategies**

* RIL and BP have signed an agreement relating to mobility Joint Ventures, expecting to expand its current fuel retailing network up to 5,500 retail outlets and 45 aviation fuel stations.
* RIL and Abu Dhabi National Oil Company (ADNOC) has signed a deal to explore the development of an Ethylene Dichloride (EDC), where RIL will provide it with expertise and entry to Indian vinyl markets against ADNOC's world-class Infrastructure in Ruwais.
* The Operating rights of RIL under the Unincorporated Joint venture of Panna Mukta Oil and Gas Fields, the venture partners have handed over the rights back to the Government of India’s nominee ONGC.

Figure 5: Product Portfolio

(RIL Annual Report, 2018-19)

# 7. Competitors Analysis

## 7.1 Oil India Ltd

Oil India Ltd was incorporated as a private limited company on Feb 18, 1989, as Oil India Private Ltd.

Today Oil India is a premier Indian National Oil Company engaged in the business of exploration, production of crude oil and natural gas, transportation, downstream (refining and marketing) and in producing non-conventional energy**.**

Oil India Limited (OIL) is a pioneer in E&P business and presently has large exploratory and producing acreage in India and abroad. OIL is the leading producer of oil and gas in the upper Assam Basin.

It has also recently acquired stakes in two significant producing assets from Rosneft Oil Company, the National Oil Company of the Russian Federation. Oil India Ltd led a consortium of Indian Oil Corporation Limited and Bharat Petro-Resources Limited and completed the acquisition of 29.9% and 23.9% stakes in LLC Taas-Yuryakh Neftegazodobycha and JSC Vankorneft respectively. With these acquisitions, crude oil production from Russia for Oil India Ltd would be around 1.7 MMT.

Figure 9: Oil India’s Shareholding Pattern

(Oil India Annual Report, 2018-19)

**Financial Snapshot**

Figure 10: Revenue of Oil India

(Oil India Annual Report, 2018-19)

The above figure shows the revenue earned by Oil India Ltd. through its major products such as Crude oil, LPG and Natural Gas. The company earns maximum revenue from crude oil.

During the year 2018-19, the sales of crude oil were 3.233MMT as compared to 3.327 MMT in the previous year. The price realization irrespective of crude oil increased to USD 68.5/BBL in the year 2018-19 as against USD 55.72/BBL in the year 2017-18 registering an increase of 12.78/BBL. As a result, revenue from crude oil has increased by 28.89% during the year, even though sales decreased marginally.

**Future Growth Strategies**

Oil India Ltd has an ambitious growth plan to make the company an international E&P player with operations at scale in at least two geographical clusters outside.

India, higher production, reserves, and cash flows while being known globally for its capabilities to extract value from mature assets. In particular, the 2030 growth aspirations of the Company has set up a target to reach Production of 15 MMTOE in 2030 more than 50 per cent of which would be coming from outside the current Main Producing Area (MPA), including two or three sizeable clusters (1.5-2 MMTOE each) outside India.

## 7.2 Nayara Energy (Essar Oil Ltd)

Essar Oil Limited was incorporated as a public company in 1989 and is the second-largest non-state refinery in India by operating a significant refinery in Vadinar, Gujarat. It is an integrated oil & gas company with a presence across the hydrocarbon value chain and also engaged in the exploration and production of oil, gas, refining of crude oil and marketing of petroleum products.

The company had a portfolio of offshore & offshore gas and oil blocks with 45,000 available for exploration and over 6,76,000 barrels per stream day of global crude refining capacity and a network of 3,500 retail fuel outlets in India & now also growing their presence in onshore oil and coal bed methane blocks in Africa, Asia, and Australia. The company has product off-take and infrastructure sharing agreements with BPCL, HPCL, and IOCL.

In 2018, the company name changed to Nayara Energy Ltd to have a new corporate identity, and now it is India's second-largest single-site refinery, constituting approx. 8% of India's refining capacity. The company received an "Excellent Energy Efficient Unit Award" by CII for Energy Management System.

Figure 11: Shareholding Pattern in %

(Nayara Energy Annual Report, 2018-19)

In 2017, the company was acquired by Rosneft, Trafigura, and UCP Investment Group with a deal of $12.9 billion and had taken most of their debt and working capital and also grabbing a larger share of the retail fuel market in India. This deal will help Rosneft to have access to India's rising fuel retail market. This deal will help Russia to deepen economic ties with the Soviet era. After acquiring the stake, the owners aim to scale up the network of fuel outlets from 3,500 to 6,000 in India and to significantly improve the financial performance of the company and plan an asset development that will outline the investment opportunities in the refinery.

**Crude Throughput**

Figure 12: Production of Processed Oil of the Past Three Years

(Nayara Energy Annual Report, 2018-19)

It has been decreased from 20.69 MMT in the year 2018 to 18.9 MMT because of the turnaround.

**Financial Snapshot**

Figure 13: Operating Income for the Last Three Years

(Nayara Energy Annual Report, 2018-19)

The Revenue has increased from Rs 85,561.8 crores in 2017-18 to Rs 98,712.9 crores in 2018-19, which is almost 15%, which was mainly due to higher realization from the sale of petroleum products on account of higher product prices and higher domestic sales

**Future Projections**

The company is planning to invest Rs 1.3 lakh crores in expanding its current 20 Million Tonne Per Annum (MTPA) Vadinar refinery capacity by an additional 26 MTPA and also adding a 10.75 MMTPA petrochemical complex. The expansion project will be completed by 2022 to 2024, and the total cost of the expansion project is estimated to be $20 billion. Nayara is also planning to invest $850 million to expand its Vadinar refinery to foray into the petrochemical business.

## 7.3 ONGC

ONGC is the fully–integrated oil and gas company in India, operating along the entire hydrocarbon value chain. It is the largest crude oil and natural gas company in India under the administrative control of the ministry of petroleum and natural gas. As out of the total production, this company contributes to 75%. Globally, ONGC ranks 18 in oil and gas operations

Some more key pointers are as follows:

* Oil is the largest energy company in India has established 8.98 billion tonnes of in-place hydrocarbon reserves. It has to its credit more than 570 discoveries of oil and gas with Ultimate Reserves of 3.13 Billion Metric tonnes (BMT) of Oil Plus Oil Equivalent Gas (O+OEG) from residential acreages.
* It has cumulatively produced 1042 Million Metric Tonnes (MMT) of crude and 715 Billion Cubic Meters (BCM) of Natural Gas.
* ONGC's wholly-owned subsidiary ONGC Videsh Ltd. (OVL) is the most prominent Indian multinational, with 41 Oil & Gas projects in 20 countries.
* ONGC produces over 1.26 million barrels of oil equivalent per day, contributing around 75% of India's domestic production
* ONGC possesses about 15% of the total Indian refining capacity.
* This E&P Company has a well-integrated Hydrocarbon Value Chain structure with interests in LNG and product transportation business as well.

Figure 14: Shareholding of 2018-19 in %(ONGC Annual Report, 2018-19)

Figure 15: Revenue for the Last Three Years

(ONGC Annual Report, 2018-19)

**Growth Strategies**

Reliance and ONGC became the joint venture partner for the Panna -Mukta oil and gas field. This field is operating for 25 years, and after such a long time, it has sold to ONGC, which will result in increasing the production capacity of crude oil.

As 25,500 kilometres of pipelines in India, including sub-sea pipes, are owned and operated by ONGC. No other company in India operates even 50 per cent of this route length.

ONGC adopts Energy Strategy 2040, which aims in doubling the target of oil and gas both from domestic and overseas fields expand its refining capacity three-fold.

## 7.4 IOCL

Indian Oil Corporation Limited which is known as Indian Oil is owned by the Indian Government and is an oil and gas company, headquartered in New Delhi. It was incorporated on June 30, 1959. It holds and operates ten of India's 20 refineries with a combined refining capacity of 60.2 million metric tonnes per annum. It is the largest commercial oil company in the country which is ranked 117th in Fortune 500 List of the world's largest companies in the year 2019. It retained the top spot for highest-ranked PSU in Fortune "Global 500" list in 2019. The operating revenues of IOCL have been rising at a rate of 4.89% CAGR.

**Shareholding Pattern**

Figure 16: Shareholding of 2018-19 in %

(IOCL Annual Report, 2018-19)

The Indian government is the major shareholder in IOCL having 50% of the shares, and rest 50% is distributed amongst institutions such as mutual funds & insurance companies and others being the general public.

**Financial Snapshot**

Figure 17: Financials for the Last five Years

(IOCL Annual Report, 2018-19)

During the year 2014 -18 the oil prices were low all over the world, but during the year 2018-19, the oil prices started to rise steadily. Due to an increase in prices, the profit margin got reduced in the year 2018-19. The revenue still went up as India is a growing economy and highly dependent.

## 7.5 Hindustan Petroleum Co. Ltd.

HPCLis a Maharashtra-based CPSE, incorporated in 1952, in the name of Standard Vacuum Refining Company of India. In 1974, HPCL came into being after the merger of (erstwhile)Esso Standard & Lube India Ltd in Mumbai. HPCL is listed in NSE as well as BSE and holds 55th position in Fortune 500 companies. It operates as the largest Lube Oil Refinery & has the second-largest share in product pipelines having a pipeline network of about 3,370 km.

It owns two coastal refineries in Mumbai & Visakhapatnam and other ventures:

|  |  |  |  |
| --- | --- | --- | --- |
| Sr. No. | Venture with | Refinery in | Holding |
| 1 | M/s Mittal Energy Ltd | Bathinda, Panjab | 48.99% |
| 2 | South Asia LPG Co Pvt Ltd | Visakhapatnam | 50% |
| 3 | Bhagyanagar Gas ltd (with GAIL) | Hyderabad, Vijayawada, Kakinada in states of Andhra Pradesh & Telangana | 49.97% |
| 4 | Petronet MHB Ltd (with ONGC) | Karnataka | 32.72% |
| 5 | Mangalore Refineries & Petrochemicals Ltd (with ONGC) | Mangalore, Karnataka | 16.96% |
| 6 | Mumbai Aviation Fuel Farm Facility Pvt Ltd (with IOCL, BPCL, MIAL) | Mumbai, Maharashtra | 25% |

**Shareholding Pattern**

Figure 18: Shareholding Pattern in %

(HPCL Annual Report, 2018-19)

**Financial Snapshot**

Figure 19: Revenue of last three years

(HPCL Annual Report, 2018-19)

# 8.Ratio Analysis

Figure 20: Debt/Equity

* The Debt Equity Ratio shows the proportion of debt and equity, a company is using to finance its assets, and it signals the extent to which shareholders' equity can fulfil obligations to creditors.
* The Debt Equity ratio in Nayara Energy and IOCL is mainly increased in the financial year 2019 because the company issued non-convertible debentures which provides them with an opportunity to align their liability proﬁle, resulting in a robust, efﬁcient and agile capital structure while in ONGC there is no debt as the company is unlevered and highly dependent on equity while other companies maintaining debt-equity in the ratio of approx. 1:1.
* Figure 21: Cash Accruals Ratio
* Cash Accrual Ratio is decreasing in HPCL year by year while it is falling in Oil India.

Figure 22: Interest Coverage Ratio

Interest Coverage Ratio (ICR)

* Interest Coverage Ratio used to determine how easily a company can pay its interest expenses on its outstanding debt. This ratio determines whether a company can pay off its debts or not.
* ICR is decreasing in every company except in Oil India Ltd, where it increases because the company is majorly dependent on equity share capital.

Figure 23: Return on Assets

* ROA is an indicator of how profitable a company is relative to its total assets means how effectively the company is using its assets to generate earnings.
* ROA is affected majorly in IOCL as in the financial year 2017 and 2018, ROA was at 14%, but in the fiscal year 2019, it decreases to 9% though the company increased their total assets in the fiscal year 2019 the net profits are reduced, means the company is not utilising their assets in an efficient and effective manner
* In case of Nayara Energy ROA decreased as the Profit after tax of the company decreased on account of lower margin and higher forex ﬂuctuation loss, and also the company had an incidence of injury of coal from the third party managed stockyard which decreases its assets. In contrast, in the remaining companies, it continues at an optimum level.

Figure 24: Return on Equity

Return on Equity (ROE)

* Performance on Equity measures how effectively the company uses its investments to generate earnings.
* The significant change in Return on equity is seen in Oil India Ltd. as in the financial year 2017; the ROE was 5.32%. Still, in the fiscal year 2019, ROE was 9.33% which is approximately increased by 75% because the company is managing its equity very well and can earn higher profits as compared to previous years.

# 9. Problem Statement

Reasons for the volatility in the price of oil and its impact on the Indian Economy.

# 10. Objectives

* To study the major importing and exporting countries of oil.
* To study the impact of the oil and gas industry on the Indian Economy.
* To monitor and analyse developments in the domestic oil

and gas sector.

* To study the financials of various oil companies
* To analyse the performance of financials on shareholders return.

# 11. Methodology

This paper determines, the research type, research design, research method, types of variables and the process of data collection to conduct the study justifying problem statement, i.e. "Reasons for the volatility in the prices of oil and its impact on the Indian Economy."

## 11.1 Research Method

For the study, the researcher has considered both qualitative and quantitative data of companies name Indian Oil, IOCL, ONGC, Essar, and HPCL. The researcher has taken the data of the last three years from (2016-17 to 2018-19) for the financial performance of all the above-mentioned companies along with this the non-financial data, i.e. growth strategies, future planning which is published in the annual reports of the individual company's website.

## 11.2 Research Design

The general plan of the study for answering the research question related to the problem statement for that the researcher has collected data from secondary and primary sources. As the researcher has personally reviewed all the annual reports of the companies along with this, a survey was conducted by preparing a questionnaire and then collected responses. Here the targeted people were those who understood the volatility of the industry well, such as the students and professionals from various fields.

Figure 24: Distribution of Targeted Population

Note: A total of 100 people were targeted

Figure 25: Distribution of Responses based on stream

Note: A total of 100 people were targeted

Figure 26: Distribution of qualification

Note: A total of 100 people were targeted

Figure 27: Distribution on age

Note: A total of 100 people were targeted

## 11.3 Correlation

In the following table correlation between the six ratios (Debt/Equity, Interest coverage, return on asset, ROE, Profit margin on sales, Net cash accrual) and (Price earnings, Average market price, EPS) of each company has been calculated. For this first we find out the ratio of various companies and the industry average. An index has been created by giving weights to all six ratios of four major companies. After calculating the correlation, we analyse that HPCL has positive correlation in all the 3 ratios i.e. P/E, Average market price and EPS while Oil India, ONGC, IOCL has negative correlation in P/E ratio.

|  |  |
| --- | --- |
| Ratios | Medium Weightage |
| Debt/ Equity ratio | 0.100 |
| Interest coverage ratio | 0.244 |
| Return on asset | 0.166 |
| ROE | 0.159 |
| Profit margin on sales | 0.151 |
| Net cash accruals ratio | 0.181 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Correlation** | | | |
| Ratios | P/E | Average market price | EPS |
| Oil India ltd. | -0.773 | 0.755 | -0.833 |
| ONGC | -0.492 | 0.159 | -0.996 |
| HPCL | 0.591 | 0.628 | 0.864 |
| IOCL | -0.393 | 0.273 | 0.264 |

# 12. Conclusion

The central aim of this study is to assess the performance of the major oil and gas companies. This research has helped us to know the major importers and exporters of oil around the globe and the revenues from various petroleum products. The interest of this study came as result of recent trends in the industry. According to three years performance, all the companies has maintained a perfect balanced approach towards debt and equity. While maintain debt at reasonable level it has shown good returns to shareholders with an average of 13.2% compared to industry norm of 12.35%.

However, price risks, capital investment will be industry drivers in the coming decade so the companies should focus on effective cost control measures and maintain good customer services. Petroleum will remain integral part of modern life in terms of products beyond gasoline and other fuels, even if the world switches to an energy resource independent of petroleum.

**Indian Oil Corporation Limited**: The financial position of the company is growing as the ROE has remained in double-digit in the past 3 years. Also, the company have a diversified business across several verticals from multiple geographies which enables them in generating stable returns. Their debt-equity ratio has gone up and Interest coverage ratio has come down in FY 2019 due to increase in debt, this increase was mainly on account of rise in dues from the government and as the oil refiner took more of foreign currency loans due to rupee-dollar volatility. The return on asset has also come down in FY 2019 due to high investment in upgradation of refineries for upgrading the technologies from BS IV to VI.

**ESSAR**: The financial position of the company is not so good as the ROE of the company has decreased this is because the company’s profit after tax has decreased drastically over the year. The company has transferred a portion of their income in general reserve causing the profits to go down. The Debt- Equity ratio has increased mainly because the company has issued non-convertible debentures which provides them with an opportunity to align their liability profile, resulting in a strong, efficient and agile capital structure. The ROA has decreased as the PAT of the company has decreased which is mainly on account of lower margin and higher forex fluctuation loss and also the company has an incidence of loss of coal from third party.

**ONGC**: The financial position of the company is growing as the ROE has started increasing. The Debt- Equity ratio was zero in FY2017. Now in FY2018 and FY2019 debt has been taken which resulted in decreased Interest coverage ratio. The ROA of the company has gone up slightly because of increase in revenue. The company has successfully been able to manage its Net Profit ratio and it has remained more than 20% for the last three years.

**HPCL**: The financial position of the company is growing as the ROE has remained in double- digits in the past three years. Also, the company have diversified business across several verticals from multiple geographies which enables them in generating stable returns. Their Debt- Equity ratio has gone up slightly and interest coverage ratio has come down in FY2019 due to increase in debt , this increase was mainly on account of rise in dues from the government and as the oil refiner took more of foreign currency loan due to rupee -dollar volatility. The ROA has also come down in FY2019 due to up gradation in technologies.

**Oil India**: The financial position of the company is satisfactory considering their Return on Equity ratio. They have reduced their long-term debt by paying off a proportion of it in the last three years, which has increased their Interest coverage ratio. The company also has a higher correlation of its major ratio vs the average market price showing these ratios have a direct impact on the market price of this share.

# 13. Annexures to the Report

## 13.1 Annexures I- Financials of all five significant competitors

1. **Oil India Ltd.**

**Balance Sheet**

**Year ending March (in Rs. Crores)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Particulars** | **FY17** | **FY18** | **FY19** |
| Share capital | 802 | 757 | 1,084 |
| Reserves | 28,289 | 27,153 | 26,661 |
| Total Shareholders’ Funds | 29,090 | 27,909 | 27,745 |
| Total Debt | 8,948 | 7,529 | 7,267 |
| Other Non-Current Liabilities | 110 | 164 | 148 |
| Deferred Taxes | 3,080 | 3,439 | 3,413 |
| **Total Liabilities** | **41,228** | **39,042** | **38,572** |
| Full Non- Current Assets | 33,581 | 35,918 | 36,092 |
| Total Current Assets | 11,759 | 8,116 | 11,373 |
| Total Current Liabilities | 3,305 | 4,376 | 8,133 |
| Net Current Assets | 42,034 | 39,658 | 39,332 |
| **Total Assets** | **41,228** | **39,042** | **38,572** |

**Income Statement**

**Year ending March (in Rs Crores)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Particulars** | **FY17** | **FY18** | **FY19** |
| Net Revenues | 11,191 | 12,141 | 15,170 |
| Total Expenses | 7,557 | 6,745 | 9,278 |
| **EBITDA** | 3,634 | 5,395 | 5,892 |
| Depreciation | 1,091 | 1,270 | 1,496 |
| **EBIT** | **2,543** | **4,125** | **4,396** |
| Interest | 397 | 416 | 479 |
| **PBT** | **2,146** | **3,710** | **3,916** |
| Tax | 598 | 1,042 | 1,326 |
| **PAT** | **1,549** | **2,668** | **2,590** |

1. **Essar oil ltd.**

**Balance Sheet**

|  |  |  |
| --- | --- | --- |
| **Year ending in March (in Crore Rs.)** | **FY19** | **FY18** |
| Total Shareholders Fund | 1,85,051 | 1,80,875 |
| Total Debt | 89,370 | 78,783 |
| Deferred Tax Liabilities | 72,661 | 68,523 |
| Other Non-Current Liabilities | 1,07,329 | 71670 |
| Current Liabilities | 248408 | 300364 |
| **Total Liabilities** | **7,02,819** | **7,00,215** |
| Total Current Assets | 5,46,744 | 5,38,495 |
| Total Non-Current Assets | 1,56,075 | 1,61,720 |
| **Total Assets** | **7,02,819** | **7,00,215** |

**Income Statement (in Rs Crores)**

|  |  |  |
| --- | --- | --- |
| **Particulars** | **FY18** | **FY19** |
| Net Revenues | 8,67,704.00 | 10,04,316.00 |
| Total Expenses | 8,15,622.00 | 9,61,112.00 |
| **EBITDA** | **52,082.00** | **43,204.00** |
| Depreciation | 14,890.00 | 15,489.00 |
| **EBIT** | **37,192.00** | **27,715.00** |
| Interest | 27,705.00 | 22,329.00 |
| **PBT** | **9,487.00** | **5,386.00** |
| Tax | 3,244.00 | 1,944.00 |
| **PAT** | **6,243.00** | **3,442.00** |

**C ONGC**

**Balance Sheet**

**Year Ending March (in Rs Crores)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Particulars** | **FY17** | **FY18** | **FY19** |
| Share capital | 64,166.32 | 64,166.32 | 62,901.54 |
| Other Equity | 17,91,217.48 | 18,69,680.49 | 19,67,024.01 |
| **Total Shareholders’ Funds** | **18,55,383.80** | **19,33,846.81** | **20,29,925.55** |
| Total Debt | 1,95,435.83 | 2,14,512.20 | 2,37,438.69 |
| Other Non-Current Liabilities | 7,708.52 | 7,712.61 | 7,121.30 |
| Deferred Taxes | 2,21,632.12 | 2,62,591.57 | 2,80,703.80 |
| Total Current Liabilities | 1,92,334.66 | 4,93,618.59 | 4,67,168.78 |
| **Total Liabilities** | **24,72,494.93** | **29,12,281.78** | **30,22,358.12** |
| Total Non-Current Assets | 21,73,422.11 | 26,97,116.25 | 27,38,444.64 |
| Total Current Assets | 2,99,072.82 | 2,15,165.53 | 2,83,903.48 |
| **Total Assets** | **24,72,494.93** | **29,12,281.78** | **30,22,348.12** |

**Income Statement**

**Year ending March (in Rs. Crores)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Particulars** | **FY17** | **FY18** | **FY19** |
| Net Revenues | 8,54,558.55 | 9,28,876.48 | **11,71,735.58** |
| Total Expenses | 4,68,290.66 | 4,80,165.32 | 5,89,487.75 |
| **EBITDA** | **3,86,267.89** | **4,48,711.16** | **5,82,247.83** |
| Depreciation | 1,21,895.38 | 1,44,701.72 | 1,57,786.22 |
| **EBIT** | **2,64,372.51** | **3,04,009.44** | **4,24,461.61** |
| Interest | 12,217.38 | 15,084.70 | 24,921.36 |
| **PBT** | **2,52,155.13** | **2,88,924.74** | **3,99,540.25** |
| Tax | 73,151.36 | 89,472.14 | 1,32,382.36 |
| **PAT** | **1,79,003.77** | **1,99,452.60** | **2,67,157.89** |

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**Balance Sheet**

|  |  |  |  |
| --- | --- | --- | --- |
| **Year Ending March (in Rs. Crores)** | **FY17** | **FY18** | **FY19** |
| Total Shareholders Fund | 1,04,000.66 | 1,16,025.04 | 1,14,346.60 |
| Total Debt | 29,233.76 | 26,054.12 | 41,980.47 |
| Deferred tax liabilities (Net) | 6,888.66 | 12,367.85 | 16,509.71 |
| Other non-current liabilities | 752.42 | 1,361.21 | 1,599.45 |
| Current Liabilities (Net) | 1,32,685.54 | 1,39,864.07 | 1,60,718.88 |
| **Total Liabilities** | **2,73,561.04** | **2,95,672.29** | **3,35,155.11** |
| Total current assets | 96,317.38 | 1,05,674.45 | 1,29,776.03 |
| Total non-current assets | 1,77,243.66 | 1,89,997.84 | 2,05,379.08 |
| **Total Assets** | **2,73,561.04** | **2,95,672.29** | **3,35,155.11** |

**Income Statement**

**(in Rs Crores)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Particulars** | **FY17** | **FY18** | **FY19** |
| Net Revenues | 4,57,598.23 | 5,18,961.77 | 6,19,957.12 |
| Total Expenses | 4,19,072.55 | 4,73,037.50 | 5,80,635.79 |
| **EBITDA** | **38,525.68** | **45,924.27** | **39,321.33** |
| Depreciation | 6,848.62 | 7,663.54 | 8,506.45 |
| **EBIT** | **31,677.06** | **38,260.73** | **30,814.88** |
| Interest | 3,721.26 | 3,810.51 | 4,887.98 |
| **PBT** | **27,955.80** | **34,450.22** | **25,926.90** |
| Tax | 7,570.40 | 11,823.87 | 8,653.05 |
| **PAT** | **20,385.40** | **22,626.35** | **17,273.85** |

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**Balance sheet**

|  |  |  |  |
| --- | --- | --- | --- |
| **Year Ending March (in Rs. Crores)** | **FY17** | **FY18** | **FY19** |
| Total Shareholders Fund | 20,347.41 | 23,948.22 | 28,174.82 |
| Total Debt | 6,460.91 | 8,908.47 | 11,373.03 |
| Deferred Tax Liabilities(net) | 5895.59 | 6569.19 | 7164.65 |
| Other non-current liabilities | 7.67 | 5.48 | 123.68 |
| Total Current Liabilities | 45,758.27 | 47,375.86 | 56,914.57 |
| **Total Liabilities** | **78,469.85** | **86,807.22** | **1,03,750.75** |
| Total current assets | 32,922.32 | 36,265.83 | 43,192.76 |
| Total non-current assets | 45,547.53 | 50,541.39 | 60,558.09 |
| **Total Assets** | **78,469.85** | **86,807.22** | **1,03,750.85** |

**Income Statement (in Rs Crores)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Particulars** | **FY17** | **FY18** | **FY19** |
| Net Revenues | 2,15,317.90 | 2,45,934.81 | 2,98,564.25 |
| Total Expenses | 2,03,226.13 | 2,33,413.42 | 2,85,487.04 |
| **EBITDA** | **12,091.77** | **12,521.39** | **13,077.21** |
| Depreciation | 2,535.28 | 2,752.75 | 3,012.61 |
| **EBIT** | **9,556.49** | **9,768.64** | **10,064.60** |
| Interest | 535.65 | 566.71 | 725.94 |
| **PBT** | **9,020.84** | **9,201.93** | **9,338.66** |
| Tax | 2,812.04 | 2,844.86 | 3,310.00 |
| **PAT** | **6,208.80** | **6,357.07** | **6,028.66** |

## 13.2 Annexures II: Questionnaire on a survey of the key ratios

**Survey on the significance of key ratios in the Oil Industry**

We are P.G.D.M. Finance students conducting this survey for our financial research project – “The comparative analysis of OIL and Gas companies based on profitability and efficiency” for which we require key ratio to analyze this volatility industry.

\*Required

1. Occupation\*

* Student
* Employed
* Self- employed
* Other

2. Stream\*

* Science
* Commerce
* Arts
* Other

3. Qualification\*

* Under Graduate
* Graduate
* Post Graduate
* Other

4. Age\*

* 18-25 Yr.
* 25-40 Yr.
* 40-60 Yr.
* Above 60 Yr.

5. Is the oil industry a significant contributor to the Indian economy?

* Strongly agree
* Agree
* Neutral
* Disagree

6. Select the ratios which are the most relevant one for proper analysis of companies working in the oil industry according to you. (Any 4) \*

* Debt-to- Equity = It's a financial leverage ratio that indicates what proportion of equity and debt is there in a company.
* EBIT/Interest Expense = Determines the firm's ability to pay interest on outstanding debt.
* Return on equity = Measures a company's profitability based on profit a company generates with the shareholder's fund.
* Return on Asset = Indicates how profitable a company is relative to its total assets.
* Working capital Ratio = Measures a firm’s ability to pay off its current liabilities with current assets.
* Asset turnover ratio = Measures the efficiency of a company's assets to generate revenue or sales.
* Operating Margin = Measures how profit a company makes on a dollar of sales, after paying for variable costs of production but before paying interest or tax.
* Price to Book value = Measures whether or not a company's stock price is undervalued

# 14. References

* Malone, D., Fries, C., & Jones, T. (1993). An Empirical Investigation of The Extent of Corporate Financial Disclosure In The Oil And Gas Industry. Journal of Accounting, Auditing & Finance.
* Sakariya, Sanjay. (2011). Indian Oil and Gas Industry - An Overview. The Case Centre.
* Bansal, Dr Rohit & Kar, Sanjay & Mishra, Dr. (2015). Comparative Financial Performance Analysis of Indian Oil Companies During 2010-2014. Archives of Business Research.
* Petroleum Planning and Analysis Cell (Petroleum Planning & Analysis Cell), New Delhi.
* Rangarajan, C.R. Sah And K.S. Reddy ‗Impact of Hike In Prices Of Coal And Petroleum Products On The Other Sectors Of The Economy: An Application Of Input-Output Technique, Artha Vignana, 23, Pp 176-81.
* Megginson, W L, Nash, R C and Van Randenborgh, M (1994). “The Financial and Operating Performance of Newly Privatised Firms: An International Empirical Analysis,” Journal of Finance, XLIX (2), 403-452.
* Pandey, I. M. (2010). Financial Management (10th Ed.). New Delhi: Vikas Publishing House Pvt Ltd.
* Hooda, R., 2018. Financial Performance Analysis Of Indian Oil Corporation Limited.
* Yadav, Santosh & Kapoor, Rohit & Dhaigude, Amol. (2016). Financial performance ranking of oil and gas companies in India using topsis method. International Journal of Business Excellence. 14. 4463-4473. 10.1504/IJBEX.2018.10015928.