



A Study on Financial Health of Hindustan Petroleum Corporation Ltd

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ABSTRACT

The Indian oil and gas sector is one of the six core industries in India and has very significant forward linkages with the entire economy. India has been growing at a decent rate annually and is committed to accelerate the growth momentum in the years to come. This would translate into India's energy needs growing many times in the years to come. Hence, there is an emphasized need for wider and more intensive exploration for new finds, more efficient and effective recovery, a more rational and optimally balanced global price regime - as against the rather wide upward fluctuations of recent times, and a spirit of equitable common benefit in global energy corporation. The purpose of this study is to study of financial performance, of India's leading oil and petroleum companies, i.e. Hindustan Petroleum Corp. Ltd, for the study. The most common tool of financial analysis Altman's Z-score to verify the financial health of the petroleum industry. It is concluded that the overall performance of Hindustan Petroleum Corp. Ltd found satisfactory in soundness and solvency capacity and investment analysis.

INTRODUCTION

India is the sixth largest consumer of oil. There is a huge demand-supply gap in oil and gas in India. The Indian oil and gas sector is of strategic importance and plays a predominant pivotal role in influencing decisions in all other spheres of the economy. The annual growth has been commendable and will accelerate in future consequently encouraging all round growth and development. This has necessitated the need for a wider intensified search for new fields, evolving better methods of extraction, refining and distribution, the constitution of a national price mechanism - keeping in mind the alarming price fluctuation in the recent past and evolving a spirit of equitable global cooperation.

Accounting for nearly 40% of the country's energy demand, the petroleum and natural gas sector forms a major source of energy in India. The share of oil and gas in India's energy mix is projected to increase in the near to medium term. Further, for both these sources, the dependence on imports is also projected to rise. Even though

the two products are used differently, their exploration processes are similar and this has often led to them to being addressed in the same category, particularly in legislations. Given this dependence on the sector and the linkages of energy with economic development, it is essential to examine and identify key issues that affect the development of the sector. This background paper on the oil and gas sector of India provides an understanding of key governance-related issues that affect the sector. It lays out the key laws and regulations that have shaped the development of the sector in the country. Subsequently, the paper discusses various organizations within the sector and examines the roles that each of these perform. Finally, key issues related to regulation, competition, Centre–State relations, financial health of utilities, and community participation are discussed in detail.

UNIQUENESS OF PETROLEUM INDUSTRY

The petroleum industry is such an industry which has the largest earning capacity. The various petroleum products are diversified in a very wide range. The main functional areas of this industry are extraction of crude, refining of crude, processing and transporting. The main problem faced by the entire petroleum industry is the pollution problem. The refining of crude oil creates huge pollution by producing various harmful gases. Another problem is of drilling mud. When the drilling work is done a huge amount of crude, water, soil mixture gets wasted. Here innovative and upgraded technology is required to minimize the wastage of petroleum. The leakage and drainage problems are also one of the major barriers in case of refinery work. Good piping technology and proper drainage system is also very essential in this industry. One thing we must appreciate that India has very limited production of petroleum in comparison with demand scenario. In this condition the wastage is a critical issue which must be addressed properly.

COMPANY PROFILE

Hindustan Petroleum Corp. Ltd (HPCL) – One of the smallest of the major Oil and Gas PSUs with a market capitalisation of Rs. 11,000 crores. The company owns and operates the largest Lube Refinery in the country producing Lube Base Oils of international standards, with a capacity of 335 TMT. This Lube Refinery accounts for over 40% of the India's total Lube Base Oil production. It has two major refineries producing a wide variety of petroleum fuels & specialties, one in Mumbai (West Coast) and the other in Vishakapatnam, (East Coast). HPCL's vast marketing network consists of its zonal & regional offices facilitated by a supply & distribution infrastructure comprising terminals, pipeline networks, aviation service stations, LPG bottling plants, inland relay depots & retail outlets, lube and LPG distributorships. HPCL accounts for about 20% of the market share and about 10% of the nation's refining capacity.

OBJECTIVES OF THE STUDY

- To analyses the financial soundness of the Hindustan Petroleum Corp. Ltd.
- To examine the financial health of the Hindustan Petroleum Corp. Ltd.

HYPOTHESIS

H_0 : There is no significant difference in the financial soundness of Hindustan Petroleum Corp. Ltd.

H_1 : There is a significant difference in the financial soundness of Hindustan Petroleum Corp. Ltd.

METHODOLOGY

The researcher, being an external analyst, had to depend mainly upon secondary data for the purpose of studying the financing performance of Oil and Petroleum Industries in India from the top selected companies in India which is highly performed in overall growth in terms of finance. The exploratory research techniques have been used for this study and also the study is restricted only to Indian based oil and petroleum organizations.

SOURCES OF DATA

The financial data for the study are drawn purely from the secondary data and the data have been collected from money control.com and annual reports of the company.

PERIOD OF THE STUDY

The period 2002-2003 to 2016-2017 is selected for this study. This 15 year period was chosen in order to have a fairly long, cyclically well balanced period, for which reasonably homogeneous, reliable and up-to-date financial data would be available.

TOOLS USED FOR ANALYSIS:

The present study has analyzed the financial performance of three Oil and Petroleum companies. In order to evaluate and compare the financial performance of selected industries. Altman's Z-score to verify the financial health of petroleum industry.

ALTMAN'S FINANCIAL HEALTH PREDICTION MODEL

Actually, the Altman Z-Score exists in three forms. The original version developed by Edward Altman in 1968 was for predicting bankruptcy potential in publicly held Manufacturing businesses. The Z-Score formulation successfully predicted bankruptcy with 90% accuracy within one year of filing and 80% accuracy two years in advance. While this was an impressive accomplishment, there was criticism that the original Z-Score did not work very well with privately held companies. Dr. Altman then created two new forms of the bankruptcy prediction formula. These were identified as Z' (Z prime) and Z'' (Z double prime) although they are also referred to as Z (A) and Z (B). Z' was developed for privately-held industrial companies and Z'' developed for non-manufacturing and service companies.

Dr. Altman developed a fourth bankruptcy predictor, ZETA®, in 1977 that modifies and incorporates additional factors into the formula. ZETA® is said to predict the potential for bankruptcy with a high degree of accuracy up to five years in advance. However, the formula is proprietary and of limited availability to business management and owners.

Many have criticized the Z-Scores as being inadequate. Some critics claim different and purportedly better ways to predict bankruptcy. However, the Altman Z-Score has withstood the test of time and some 45 years after its first use is still relevant and widely used as a bankruptcy predictor.

We are concerned with business survivability and growth using tools that anticipate potential problems.

The Altman Z-Score expressions are as follow:

Z-Score = $(X1*1.2) + (X2*1.4) + (X3*3.3) + (X4*0.6) + (X5*0.999)$ for public Manufacturing businesses

X1 = Working capital / Total assets

It is the measure of net liquid assets of a concern to the total capitalization

X2 = Retained earnings / Total assets

It is a measure for re-investment earnings of a concern to the total assets

X3 = Earnings before interest and taxes / Total assets

It is a measure of profitability of the concern to the total assets

X4 = Market value of equity / book value of total debts

It is a measure of leverage of a concern

X5 = Sales / Total assets

It indicates the efficiency of management in manufacturing, sales, administration and other activities

ALTMAN'S GUIDELINES FOR HEALTHY ZONE

| Situation | Z score | Zones |
|-----------|----------------|--|
| I | Below 1.8 | Bankruptcy Zone (Certain to fall) |
| II | 1.8 to 2.99 | Healthy zone (Uncertain to predict) |
| III | 2.99 and above | Too healthy zone (not to fall) |

Table 1: Ratio of Working Capital and Total Assets of ONGC

| YEAR | WORKING CAPITAL | TOTAL ASSETS | RATIO |
|---------|-----------------|--------------|-----------------|
| 2002-03 | 8117.38 | 10107.33 | 0.803118 |
| 2003-04 | 7956.19 | 11569.61 | 0.68768 |
| 2004-05 | 2682.97 | 12615.01 | 0.212681 |
| 2005-06 | 3285.50 | 17483.35 | 0.187922 |
| 2006-07 | 1583.43 | 22105.30 | 0.071631 |
| 2007-08 | 7360.73 | 29735.93 | 0.247537 |
| 2008-09 | 4947.50 | 36892.86 | 0.134105 |
| 2009-10 | 3748.71 | 38528.13 | 0.097298 |
| 2010-11 | 7227.37 | 47650.32 | 0.151675 |
| 2011-12 | 5898.96 | 85576.64 | 0.068932 |
| 2012-13 | 8,057.13 | 92275.80 | 0.087316 |
| 2013-14 | 10,496.44 | 96718.61 | 0.108526 |
| 2014-15 | -8,304.97 | 85431.71 | -0.09721 |
| 2015-16 | -12,589.96 | 87374.53 | -0.14409 |
| 2016-17 | -11,413.57 | 80319.04 | -0.1421 |

The table 1 reveals the ratio of working capital and total assets during the year 2002-03 to 2016-17. The ratio is considered as an indicator of the liquid assets of the company to the capitalization. The maximum level of ratio was **0.803118:1** during the year 2002-03 and minimum of **-0.14409:1** was found in the year 2015-16.

Table 2: Ratio of Retained Earnings and Total Assets of ONGC

| YEAR | RETAINED EARNINGS | TOTAL ASSETS | RATIO |
|---------|-------------------|--------------|-----------------|
| 2002-03 | 6040.20 | 10107.33 | 0.597606 |
| 2003-04 | 7175.81 | 11569.61 | 0.620229 |
| 2004-05 | 7977.50 | 12615.01 | 0.632382 |
| 2005-06 | 8318.00 | 17483.35 | 0.475767 |
| 2006-07 | 9227.34 | 22105.30 | 0.417427 |
| 2007-08 | 10424.91 | 29735.93 | 0.350583 |
| 2008-09 | 10802.36 | 36892.86 | 0.292804 |
| 2009-10 | 11799.19 | 38528.13 | 0.306249 |
| 2010-11 | 12941.43 | 47650.32 | 0.271592 |
| 2011-12 | 12769.18 | 85576.64 | 0.149213 |
| 2012-13 | 13,019.57 | 92275.80 | 0.141094 |
| 2013-14 | 13,659.72 | 96718.61 | 0.141232 |
| 2014-15 | 13,272.82 | 85431.71 | 0.155362 |
| 2015-16 | 16,675.07 | 87374.53 | 0.190846 |
| 2016-17 | 20,055.16 | 80319.04 | 0.249694 |

The table 2 reveals the ratio of retained earnings and total assets during the year 2002-03 to 2016-17. It is a measure for re-investment earnings of a concern to the total assets, the maximum level of ratio was **0.632382:1** during the year 2004-05 and the minimum level of ratio was **0.141094:1** during the year 2012-13.

Table 3: Ratio of EBIT and Total Assets of ONGC

| YEAR | EBIT | TOTAL ASSETS | RATIO |
|---------|----------|--------------|-----------------|
| 2002-03 | 2302.69 | 10107.33 | 0.227824 |
| 2003-04 | 3067.38 | 11569.61 | 0.265124 |
| 2004-05 | 1871.25 | 12615.01 | 0.148335 |
| 2005-06 | 373.48 | 17483.35 | 0.021362 |
| 2006-07 | 2165.12 | 22105.30 | 0.097946 |
| 2007-08 | 1423.56 | 29735.93 | 0.047873 |
| 2008-09 | 1011.84 | 36892.86 | 0.027426 |
| 2009-10 | 2419.48 | 38528.13 | 0.062798 |
| 2010-11 | 2611.89 | 47650.32 | 0.054814 |
| 2011-12 | 866.91 | 85576.64 | 0.01013 |
| 2012-13 | 881.72 | 92275.80 | 0.009555 |
| 2013-14 | 1,325.03 | 96718.61 | 0.0137 |
| 2014-15 | 2,230.69 | 85431.71 | 0.026111 |
| 2015-16 | 6,954.15 | 87374.53 | 0.07959 |
| 2016-17 | 8,878.44 | 80319.04 | 0.11054 |

The table 3 reveals the ratio of EBIT and total assets during the year 2002-03 to 2016-17. The ratio is considered as an indicator of how efficiently the company is using its assets to generate the return. The maximum ROTA of **0.265124:1** was found in the year 2003-04 and the minimum ROTA of **0.009555:1** was found in the year 2012-13.

Table 4 : Ratio of Market value of equity and Total debts of ONGC

| YEAR | MARKET VALUE OF EQUITY | TOTAL DEBTS | RATIO |
|---------|------------------------|-------------|-----------------|
| 2002-03 | 73.31 | 10107.33 | 0.007253 |
| 2003-04 | 89.00 | 11569.61 | 0.007693 |
| 2004-05 | 73.05 | 12615.01 | 0.005791 |
| 2005-06 | 61.86 | 17483.35 | 0.003538 |
| 2006-07 | 82.04 | 22105.30 | 0.003711 |
| 2007-08 | 60.6 | 29735.93 | 0.002038 |
| 2008-09 | 86.82 | 36892.86 | 0.002353 |
| 2009-10 | 86.96 | 38528.13 | 0.002257 |
| 2010-11 | 55.93 | 47650.32 | 0.001174 |
| 2011-12 | 64.54 | 85576.64 | 0.000754 |
| 2012-13 | 52.71 | 92275.80 | 0.000571 |
| 2013-14 | 121.65 | 96718.61 | 0.001258 |
| 2014-15 | 185.76 | 85431.71 | 0.002174 |
| 2015-16 | 294.15 | 87374.53 | 0.003367 |
| 2016-17 | 416.3 | 80319.04 | 0.005183 |

The table 4 reveals the ratio of the market value of equity and total liability during the year 2002-03 to 2016-17. It is a measure of leverage of a concern and also shows the market reaction regarding total liability of companies during the financial year. The maximum ratio **0.007693** was noticed during the year 2003-04 and the minimum ratio of **0.000571** was found in the year 2012-13.

Table 5: Ratio of Net Sales and Total Assets of ONGC

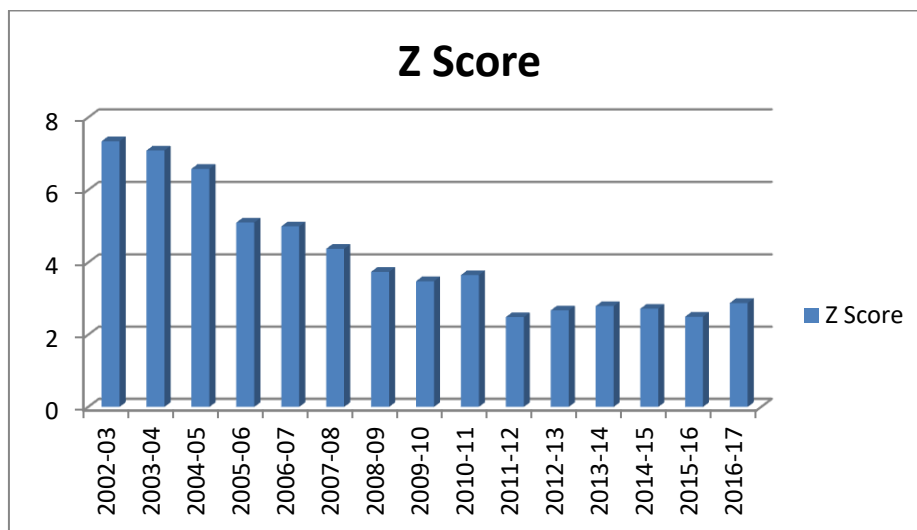
| YEAR | NET SALES | TOTAL ASSETS | RATIO |
|---------|------------|--------------|-----------------|
| 2002-03 | 48438.67 | 10107.33 | 4.79243 |
| 2003-04 | 52303.00 | 11569.61 | 4.520723 |
| 2004-05 | 62504.61 | 12615.01 | 4.954781 |
| 2005-06 | 72438.80 | 17483.35 | 4.143302 |
| 2006-07 | 88499.42 | 22105.30 | 4.003539 |
| 2007-08 | 102098.27 | 29735.93 | 3.433498 |
| 2008-09 | 113679.74 | 36892.86 | 3.081348 |
| 2009-10 | 105177.93 | 38528.13 | 2.7299 |
| 2010-11 | 138742.23 | 47650.32 | 2.911675 |
| 2011-12 | 185283.86 | 85576.64 | 2.165122 |
| 2012-13 | 216,154.13 | 92275.80 | 2.342479 |
| 2013-14 | 234,159.44 | 96718.61 | 2.421038 |
| 2014-15 | 216,594.13 | 85431.71 | 2.53529 |
| 2015-16 | 187,078.79 | 87374.53 | 2.141114 |
| 2016-17 | 187,426.25 | 80319.04 | 2.333522 |

The table 5 reveals the ratio of net sales and total assets during the year 2002-03 to 2016-17. It indicates the efficiency of management in manufacturing, sales, administration and other activities to generate revenue. The maximum ratio of **4.954781** was found in the year 2004-05 and the minimum of **2.141114** was found in the year 2015-16.

Table 6: Altman Z Score Value

| YEAR | X1*1.2 | X2*1.4 | X3*3.3 | X4*0.6 | X5*0.999 | Z Score |
|---------|----------|----------|----------|----------|----------|-----------------|
| 2002-03 | 0.803118 | 0.597606 | 0.227824 | 0.007253 | 4.79243 | 7.344198 |
| 2003-04 | 0.68768 | 0.620229 | 0.265124 | 0.007693 | 4.520723 | 7.089263 |
| 2004-05 | 0.212681 | 0.632382 | 0.148335 | 0.005791 | 4.954781 | 6.583358 |
| 2005-06 | 0.187922 | 0.475767 | 0.021362 | 0.003538 | 4.143302 | 5.103356 |
| 2006-07 | 0.071631 | 0.417427 | 0.097946 | 0.003711 | 4.003539 | 4.995337 |
| 2007-08 | 0.247537 | 0.350583 | 0.047873 | 0.002038 | 3.433498 | 4.37713 |
| 2008-09 | 0.134105 | 0.292804 | 0.027426 | 0.002353 | 3.081348 | 3.741036 |
| 2009-10 | 0.097298 | 0.306249 | 0.062798 | 0.002257 | 2.7299 | 3.481262 |
| 2010-11 | 0.151675 | 0.271592 | 0.054814 | 0.001174 | 2.911675 | 3.652591 |
| 2011-12 | 0.068932 | 0.149213 | 0.01013 | 0.000754 | 2.165122 | 2.488456 |
| 2012-13 | 0.087316 | 0.141094 | 0.009555 | 0.000571 | 2.342479 | 2.674322 |
| 2013-14 | 0.108526 | 0.141232 | 0.0137 | 0.001258 | 2.421038 | 2.792536 |
| 2014-15 | -0.09721 | 0.155362 | 0.026111 | 0.002174 | 2.53529 | 2.721077 |
| 2015-16 | -0.14409 | 0.190846 | 0.07959 | 0.003367 | 2.141114 | 2.497914 |
| 2016-17 | -0.1421 | 0.249694 | 0.11054 | 0.005183 | 2.333522 | 2.878127 |

Chart no 1: Altman's Z Score values



The chart no. 01 reveals the Z score values of HPCL during the year 2002-03 to 2016-17. The maximum score of **7.344198** can be seen in the year 2002-03 and the minimum score of **2.488456** can be seen in the year 2011-12. The study reveals the HPCL is enjoying the too healthy zone over the entire study period but the trend of Z score value is fluctuating during the study period. So, we can conclude that in a future there is less chance of the insolvency of the company.

FINDINGS AND CONCLUSION

The calculated z-score value during the study period is fluctuating. Z score of the year 2012 was lowest among all i.e. **2.488456** while **7.344198** was highest in the year 2003. The average Z score of HPCL is **4.161331** which is more than to 3. But among the company should try to increase the ratio of x4 which indicates Market value of equity / book value of total debts. It is a measure of leverage of a concern. Ratio between 1.81 to 3.0 indicates indeterminate probability of bankruptcy. So, we can say that there is no chance of insolvency of a company in a future as studied by past data. The company must take steps to increase the financial performance by using corrective measures.

- H_0 is accepted. HPCL sound (Z-score Based)
- H_0 : There is no significant difference in financial soundness of HPCL.

The calculated Z score values are too healthy to the company but it is in fluctuating trend. The company must take proper measures to increase the financial performance using the available resources.

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