

Profitability Analysis of Hindustan Petroleum Corporation Limited and Bharat Petroleum Corporation Limited

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Abstract: *The present study makes an attempt to study comparative analysis on profitability of above two public oil and natural gas companies Hindustan Petroleum Corporation of India and Bharat Petroleum Corporation Limited. The objective of the present study is to analyse the profitability of these two companies during the study period of five years from 2015-16 to 2019-20. It has employed statistical tools of non-parametric test i.e. Mann Whitney U test to draw inference on hypotheses framed to compare the profitability of two companies. The study has applied eight ratios to measure profitability of these companies. gross profit ratio, net profit ratio, operating profit ratio, return on gross capital employed ratio, interest coverage ratio, operating ratio, total assets turnover ratio and operating expense ratio, ratios of Bharat Petroleum Corporation Limited is higher as compared to Hindustan Petroleum Corporation Limited during the period of five years. Only the operating ratio & total assets turnover ratio of Hindustan Petroleum Corporation Limited is higher than Bharat Petroleum Corporation Limited during the same period.*

Keywords: Operating Profit Ratio, Interest Coverage Ratio, Operating Ratio, Operating Expense

1. Introduction

Profit is the financial return or reward that firms or entrepreneurs aim to achieve to reflect the risk that they take. Given that most firms and entrepreneurs invest in order to make a return, the profit earned by a business can be used to measure the success of that investment. Profitability analysis allows companies to maximize their profit, and thus also maximizes the opportunities that business can take advantage of in order to keep itself successful and relevant in a very dynamic, competitive, and vibrant market. Profitability analysis essentially gives company leadership the capability to solidify the company's state before changing things up with any growth initiatives.

2. Literature Review

Satya Ranjan Doley(2018) in his paper study comparative analysis on profitability of above two public oil and natural gas companies Hindustan Petroleum Corporation of India and Bharat Petroleum Corporation Limited. Objective of his study is to analyze the profitability of these two companies during the study period of five years from 2012-13 to 2016-17. It is found that BPCL is performing better than HPCL during the period of five years of the study.

Mohd.Yameen & Izhar Ahmad (2015) in their paper highlighted that the Impact of Corporate Governance Practices on Financial Performance of Hindustan Petroleum Corporation Limited Objective of his study is to judge the impact of corporate governance practices on the shareholders wealth and financial performance of the organization. It is found that corporate governance plays a significant role for the improvement of the operating performance, financial efficiency and shareholder's wealth in the organization.

The above literature review shows that these studies have been conducted with respect to particulars aspects. There are

not many comparative studies on profitability of two public limited oil and natural companies in India. Hence, the present study has been undertaken to fill the research gap.

Objectives of the Study

The objective of the present study is to analyze the profitability of Hindustan Petroleum Corporation Limited and Bharat Petroleum Corporation Limited during the study period of five years from 2015-16 to 2019-20.

Research Methodology

The research design in the present study is empirical in nature. The study pertains to secondary sources of data and these have been collected from various sources of annual report of two concerned companies, research article published in journal and article published website. The study is for the period of five years ranging from 2015-16 to 2019-20. It has employed statistical tools of non-parametric test i.e. kruskal wallis test to draw inference on hypotheses framed to compare the profitability of two oil and gas companies. The study has applied eight ratios to measure profitability which was used by Satya Ranjan Doley, T. in his study entitled. Profitability analysis of Hindustan Petroleum Corporation Limited and Bharat Petroleum Corporation Limited: A Comparative Study. The variables used for measuring profitability of the company in this study include gross profit ratio, net profit ratio, operating profit ratio, return on gross capital employed ratio, interest coverage ratio, operating ratio, total assets turnover ratio and operating expense ratio. The formula for calculating key profitability ratios

Analysis and Result

The portion of study has analyzed the profitability of Bharat Petroleum Corporation Limited is higher than Hindustan Petroleum Corporation Limited with the help of financial key ratios to yield result and then drawn inference based on these ratios by using the inferential statistics.

Table 1: Gross Profit Ratio of HPCL and BPCL (Amount in ₹ Crore)

	HPCL			BPCL		
Year	Gross Profit	Net Sales	Ratio in %	Gross Profit	Net Sales	Ratio in %
2015-16	9,083.45	1,97,437.53	4.60	12,801	2,18,072	5.87
2016-17	12,091.77	2,13,488.95	5.66	13,340	2,43,464	5.48
2017-18	12,521.39	2,43,226.66	5.15	14,772	2,79,447	5.29
2018-19	13,077.21	2,95,712.56	4.42	14,948	3,39,693	4.40
2019-20	5,958.70	2,86,250.27	2.08	9,721	3,30,372	2.94

Source: Annual Report of HPCL and BPCL for five years from 2015-16 to 2019-20

Table 1 shows that gross profit ratio of HPCL in the initial year 2015-16 is 4.60 percent and it increases in next year but going down in during three succeeding years. Whereas the ratio of BPCL is shown as 5.87 percent in 2015-16 and its continuous downward trend is observed during succeeding years. It is observed from comparative analysis of two companies that this ratio of BPCL is almost higher as compared to HPCL during five years.

Table 2: Net Profit Ratio of HPCL and BPCL (Amount in ₹ Crore)

	HPCL			BPCL		
Year	Net Profit	Net Sales	Ratio in %	Net Profit	Net Sales	Ratio in %
2015-16	3,726.16	1,97,437.53	1.89	7,056	2,18,072	3.24
2016-17	6,208.80	2,13,488.95	2.91	8,039	2,43,464	3.30
2017-18	6,357.07	2,43,226.66	2.61	7,976	2,79,447	2.85
2018-19	6,028.66	2,95,712.56	2.04	7,132	3,39,693	2.10
2019-20	2,637.26	2,86,250.27	0.92	2,683	3,30,372	0.81

Source: Annual Report of HPCL and BPCL for five years from 2015-16 to 2019-20

Table 2 demonstrates that net profit ratio of HPCL is 1.89 percent in the year 2015-16 and it increases in next year but going down in during three succeeding years. On the other hand, ratio of BPCL is 3.24 percent in 2015-16 and increases in next year but going down during three succeeding years. It is observed from comparative analysis of two companies that this ratio of BPCL is almost higher as compared to HPCL during five years.

Table 3: Operating profit ratio of HPCL and BPCL (Amount in ₹ Crore)

	HPCL			BPCL		
Year	Operating profit	Net Sales	Ratio in %	Operating Profit	Net Sales	Ratio in %
2015-16	6,445.56	1,97,437.53	3.26	13,725.98	2,18,072	6.29
2016-17	8,503.64	2,13,488.95	3.98	13,452.58	2,43,464	5.53
2017-18	8,417.56	2,43,226.66	3.46	14,070.74	2,79,447	5.04
2018-19	8,734.71	2,95,712.56	2.95	13,732	3,39,693	4.04
2019-20	2,461.91	2,86,250.27	0.86	6,198.26	3,30,372	1.88

Source: Annual Report of HPCL and BPCL for five years from 2015-16 to 2019-20

Table 3 shows that operating profit ratio of HPCL in 2015-16 is 3.26 percent and it increases in next year but going down in during three succeeding years. On the other hand, the ratio of BPCL is 6.29 percent in 2015-16 its continuous downward trend is observed during succeeding years. It is observed from comparative analysis of two companies that this ratio of BPCL is almost higher as compared to HPCL during five years.

Table 4: Return on Gross Capital Employed Ratio of HPCL and BPCL (Amount in ₹ Crore)

	HPCL			BPCL		
Year	EBIT	Total Assets	Ratio in %	EBIT	Total Assets	Ratio in %
2015-16	6,445.56	87,687.11	7.35	13,725.98	93,788.52	14.64
2016-17	8,503.64	80,319.04	10.59	13,452.58	1,09,086.26	12.33
2017-18	8,417.56	89,671.75	9.39	14,070.74	1,20,420.56	11.68
2018-19	8,734.71	107,258.36	8.14	13,732	1,36,930.38	10.03
2019-20	2,461.91	1,16,906.20	2.11	6,198.26	1,50,863.56	4.11

Source: Annual Report of HPCL and BPCL for five years from 2015-16 to 2019-20

Table 4 shows that the Gross capital employed ratio of HPCL in 2015-16 shows 7.35 percent and it increases in next year but going down in during three succeeding years. This ratio of BPCL is calculated as 14.64 percent in 2015-16 is continuous downward trend observed during succeeding years. It is observed from comparative analysis of two companies that this ratio of BPCL is almost higher as compared to HPCL during five years.

Table 5: Interest Coverage Ratio of HPCL and BPCL (Amount in ₹ Crore)

Year	HPCL			BPCL		
	EBIT	Interest Expenses	Ratio in %	EBIT	Interest Expenses	Ratio in %
2015-16	6,445.56	653.60	986.17	13,725.98	565	2,429.38
2016-17	8,503.64	535.65	1,587.54	13,452.58	496	2,712.21
2017-18	8,417.56	566.71	1,485.34	14,070.74	833	1,689.16
2018-19	8,734.71	725.94	1,203.23	13,732	1,319	1,041.09
2019-20	2,461.91	1,081.72	227.59	6,198.26	2,182	284.06

Source: Annual Report of HPCL and BPCL for five years from 2015-16 to 2019-20

Table 5 shows that the Interest coverage ratio of HPCL shows that it is 986.17 percent in 2015-16 which is increasing in next year but going down in during three succeeding years. The ratio of BPCL is calculated as 2,429.38 percent in 2015-16 which is increased in next year

but going down during three succeeding years. It is observed from comparative analysis of two companies that this ratio of BPCL is almost higher as compared to HPCL during five years

Table 6: Operating Ratio of HPCL and BPCL (Amount in ₹ Crore)

Year	HPCL			BPCL		
	Expenses	Net Sales	Ratio in %	Expenses	Net Sales	Ratio in %
2015-16	1,81,774.33	1,97,437.53	92.07	1,77,798.34	2,18,072	81.53
2016-17	2,06,794.60	2,13,488.95	96.86	2,33,038.99	2,43,464	95.72
2017-18	2,37,001.44	2,43,226.66	97.44	2,68,210.78	2,79,447	95.98
2018-19	2,89,508.86	2,95,712.56	97.90	3,30,948.64	3,39,693	97.43
2019-20	2,86,588.28	2,86,250.27	100.12	3,28,165.24	3,30,372	99.33

Source: Annual Report of HPCL and BPCL for five years from 2015-16 to 2019-20.

Table 6 shows that the Operating ratio of HPCL shows 92.07 percent in 2015-16 which is increasing in each year during the period up to 2019-20. On the other hand, the ratio of BPCL is 81.53 percent in 2015-16 which goes up in each

year over the whole period. The comparative analysis of two companies shows that this ratio of HPCL is greater as compared to BPCL during five years.

Table 7: Total Assets Turnover Ratio of HPCL and BPCL (Amount in ₹ Crore)

Year	HPCL			BPCL		
	Net Sales	Total Assets	Ratio in %	Net Sales	Total Assets	Ratio in %
2015-16	1,97,437.53	87,687.11	225.16	2,18,072	93,788.52	232.51
2016-17	2,13,488.95	80,319.04	265.80	2,43,464	1,09,086.26	223.18
2017-18	2,43,226.66	89,671.75	271.24	2,79,447	1,20,420.56	232.06
2018-19	2,95,712.56	1,07,258.36	275.70	3,39,693	1,36,930.38	248.08
2019-20	2,86,250.27	1,16,906.20	244.85	3,30,372	1,50,863.56	218.99

Source: Annual Report of HPCL and BPCL for five years from 2015-16 to 2019-20

Table 7 shows that total Assets turnover ratio of HPCL in 2015-16 is 225.16 percent and is going up three consecutive years. It goes down 244.85 percent in 2019-20. The ratio of BPCL is 232.51 percent in 2015-16 and it decreases in next

year. It rises two consecutive years and which decreases 218.99 percent in 2019-20. The comparative analysis of two companies shows that the ratio of HPCL is greater as compared to BPCL during five years.

Table 8: Operating Expenses Ratio of HPCL and BPCL (Amount in ₹ Crore)

Year	HPCL			BPCL		
	Operating Expenses	Net Sales	Ratio in %	Operating Expenses	Net Sales	Ratio in %
2015-16	7,906.82	1,97,437.53	4.00	9,429	2,18,072	4.32
2016-17	7,089.70	2,13,488.95	3.32	9,043	2,43,464	3.71
2017-18	7,252.52	2,43,226.66	2.98	10,199	2,79,447	3.65
2018-19	8,259.81	2,95,712.56	2.79	12,277	3,39,693	3.61
2019-20	9,270.28	2,86,250.27	3.23	13,372	3,30,372	4.05

Source: Annual Report of HPCL and BPCL for five years from 2015-16 to 2019-20

Operating expense ratio of HPCL in 2015-16 is 4.00 percent and is decreasing during three consecutive years. Then it increases to 3.23 percent in 2019-20. The ratio of BPCL is 4.32 percent in 2015-16 and decreases during three consecutive years. Then it increases to 4.05 percent in 2019-20. It is observed from comparative analysis of two companies that this ratio of BPCL is higher as compared to HPCL during five years

Result of Inferential Statistics

H₀₁: There is no significant difference of gross profit ratio of HPCL and BPCL during the study period of five years.

Table 9: Gross Profit Ratio of HPCL and BPCL

Year	HPCL		BPCL	
	Ratio in pc	Rank	Ratio in pc	Rank
2015-16	4.60	05	5.87	10
2016-17	5.66	09	5.48	08
2017-18	5.15	06	5.29	07
2018-19	4.42	04	4.40	03
2019-20	2.08	01	2.94	02
Sum of rank holder		25		30
No. of Data		05		05
U-Value	15			
Z-Value	0.51			

Table 9 demonstrates that the computed value U 15 which is higher than critical value of U (1) at 5 percent significance level. The calculation of z-value further 0.51 is lower than 1.96. There is enough evidence to support the null hypothesis. So, there is no significant difference of gross profit ratio of HPCL and BPCL during the study period of five years under review is accepted.

H₀: There is no significant difference of net profit ratio of HPCL and BPCL during the study period of five years.

Table 10: Net Profit Ratio of HPCL and BPCL

Year	HPCL		BPCL	
	Ratio in pc	Rank	Ratio in pc	Rank
2015-16	1.89	03	3.24	09
2016-17	2.91	08	3.30	10
2017-18	2.61	06	2.85	07
2018-19	2.04	04	2.10	05
2019-20	0.92	02	0.81	01
Sum of rank holder		23		32
No. of Data		05		05
U-Value	17			
Z-Value	0.68			

The computed value U17 which is higher than critical value of U (1) at 5 percent significance level (Table 10).The calculation of z-value 0.68 is less than 1.96. There is enough evidence to support the null hypothesis framed. So, null hypothesis that there is no significant difference of net profit ratio of HPCL and BPCL during the study period of five years under review can be accepted.

H₀: There is no significant difference of operating profit ratio of HPCL and BPCL during the study period of five years.

Table 11: Operating Profit Ratio of HPCL and BPCL

Year	HPCL		BPCL	
	Ratio in pc	Rank	Ratio in pc	Rank
2015-16	3.26	04	6.29	10
2016-17	3.98	06	5.53	09
2017-18	3.46	05	5.04	08
2018-19	2.95	03	4.04	07
2019-20	0.86	01	1.88	02
Sum of rank holder		19		36
No. of Data		05		05
U-Value	21			
Z-Value	1.77			

The computed value U 21 which is higher than critical value of U (1) at 5 percent significance level (Table 11).The

calculation of z-value 1.77 is less than 1.96. There is enough evidence to support the null hypothesis framed. So, null hypothesis that there is no significant difference of Operating profit ratio of HPCL and BPCL during the study period of five years under review can be accepted.

H₀: There is no significant difference of return on capital employed ratio of HPCL and BPCL during the study period of five years

Table 12: Return on Capital Employed of HPCL and BPCL

Year	HPCL		BPCL	
	Ratio in pc	Rank	Ratio in pc	Rank
2015-16	7.35	03	14.64	10
2016-17	10.59	07	12.33	09
2017-18	9.39	05	11.68	08
2018-19	8.14	04	10.03	06
2019-20	2.11	01	4.11	02
Sum of rank holder		20		35
No. of Data		05		05
U-Value	20			
Z-Value	1.32			

The computed value U 20 which is higher than critical value of U (1) at 5 percent significance level (Table 12).The calculation of z-value 1.32 is less than 1.96. There is enough evidence to support the null hypothesis framed. So, null hypothesis that there is no significant difference of Return on Capital Employed of HPCL and BPCL during the study period of five years under review can be accepted.

H₀: There is no significant difference of interest coverage ratio of HPCL and BPCL during the study period of five years.

Table 13: Interest Coverage Ratio of HPCL and BPCL

Year	HPCL		BPCL	
	Ratio in pc	Rank	Ratio in pc	Rank
2015-16	986.17	03	2,429.38	09
2016-17	1,587.54	07	2,712.21	10
2017-18	1,485.34	06	1,689.16	08
2018-19	1,203.23	05	1,041.09	04
2019-20	227.59	01	284.06	02
Sum of rank holder		22		33
No. of Data		05		05
U-Value	18			
Z-Value	1.04			

The computed value U 18 which is higher than critical value of U (1) at 5 percent significance level (Table13).The calculation of z-value 1.04 is lower than 1.96. There is enough evidence to support the null hypothesis framed. So, null hypothesis that there is no significant difference of interest coverage ratio of HPCL and BPCL during the study period of five years under review can be accepted.

H₀: There is no significant difference of total asset turnover ratio of HPCL and BPCL during the study period of five years.

Table 14: Total Asset Turnover Ratio of HPCL and BPCL

Year	HPCL		BPCL	
	Ratio in pc	Rank	Ratio in pc	Rank
2015-16	92.07	02	81.53	01
2016-17	96.86	05	95.72	03
2017-18	97.44	07	95.98	04
2018-19	97.90	08	97.43	06
2019-20	100.12	10	99.33	09
Sum of rank holder		32		23
No. of Data		05		05
U-Value	8			
Z-Value	0.29			

The computed value U 8 which is higher than critical value of U (1) at 5 percent significance level (Table 14). The calculation of z-value 0.29 is lower than 1.96. There is enough evidence to support the null hypothesis framed. So, null hypothesis that there is no significant difference of Total Assets Turnover ratio of HPCL and BPCL during the study period of five years under review can be accepted.

H₀: There is no significant difference of operating ratio of HPCL and BPCL during the study period of five years.

Table 15: Operating Ratio of HPCL and BPCL

Year	HPCL		BPCL	
	Ratio	Rank	Ratio	Rank
2015-16	225.16	02	232.51	05
2016-17	265.80	08	223.18	03
2017-18	271.24	09	232.06	04
2018-19	275.70	10	248.08	07
2019-20	244.85	06	218.99	01
Sum of rank holder		35		20
No. of Data		05		05
U-Value	5			
Z-Value	2.45			

The computed value U 5 which is higher than critical value of U (1) at 5 percent significance level (Table 15). The calculation of z-value 2.45 is higher than 1.96. So, null hypothesis cannot be accepted and alternative hypothesis that there is significant difference of operating ratio of HPCL and BPCL during the study period of five years under review can be accepted.

H₀: There is no significant difference of operating expense ratio of HPCL and BPCL during the study period of five years.

Table 16: Operating Expense Ratio of HPCL and BPCL

Year	HPCL		BPCL	
	Ratio	Rank	Ratio	Rank
2015-16	4.00	08	4.32	10
2016-17	3.32	04	3.71	07
2017-18	2.98	02	3.65	06
2018-19	2.79	01	3.61	05
2019-20	3.23	03	4.05	09
Sum of rank holder		18		37
No. of Data		05		05
U-Value	22			
Z-Value	2.18			

The computed value U 22 which is higher than critical value of U (1) at 5 percent significance level (Table 15). The

calculation of z-value 2.18 is higher than 1.96. So, null hypothesis can not be accepted and alternative hypothesis that there is significant difference of operating expenses ratio of HPCL and BPCL during the study period of five years under review can be accepted.

Research Implication

The present study has managerial implication. It points out various profitability ratios of two public oil and natural companies about the future policy to be adopted based on the present financial performance. This study will give picture to the government about the sort of deficiency of its present strategy of two companies undertaken. It is also useful for the government for future approach that it will follow to run the other public sector oil and companies.

3. Conclusion

It is observed that in seven ratios i.e. gross profit ratio, net profit ratio, operating profit ratio, return on gross capital employed ratio, interest coverage ratio, and operating expense ratios of BPCL is higher as compared to HPCL during the period under review in the present study. Only the operating ratio, total assets turnover ratio HPCL is higher than BPCL during the same period. The null hypothesis of the present study shows that there is statistically significant difference of BPCL and HPCL with respect to operating ratio and Operating Expenses Ratio period of five years. On the other hand, there is no statistically significant difference of BPCL and HPCL with respect to gross profit ratio, net profit ratio, operating profit ratio, return on gross capital employed ratio, interest coverage ratio, operating ratio, total assets turnover ratio and operating expense ratio over the period of five years. The comparative profitability of two oil and gas companies analysis demonstrates that BPCL is performing better than HPCL during the period of five years in the present study.

4. Research Limitation

The present study has certain limitations. It is an empirical study between two oil and gas companies only. Secondly, the period of study is limited to five years from 2015-16 to 2019-20. The full dependence on reliability of secondary sources of data poses another limitation of the present study.

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