



# COMPARATIVE ANALYSIS ON LEVERAGE RATIOS OF BHARAT PETROLEUM CORPORATION LIMITED (BPCL) AND HINDUSTAN PETROLEUM CORPORATION LIMITED (HPCL)

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**Abstract:** This study examines the leverage ratios of two major oil companies, Bharat Petroleum Corporation Limited (BPCL) and Hindustan Petroleum Corporation Limited (HPCL), from 2019 to 2023. Leverage, defined as the use of debt to enhance financial performance while minimizing equity, plays a crucial role in the stability and growth of businesses in the oil sector. By analysing various leverage ratios like Debt-to-Equity ratio, Long Term Debt-to-Equity Ratio, Debt-to-Asset Ratio, Debt-to-EBITDA ratio, Asset to equity ratio, Debt-to-capital ratio, financial leverage aims to highlight the financial health of both companies. The findings will offer valuable insights for investors, stakeholders, and policymakers regarding the comparative financial performance and operational efficiency of BPCL and HPCL.

**Keywords:** Financial Leverage, Financial Performance, Comparative Analysis, leverage ratios, optimizing leverage management

## I. INTRODUCTION

Leverage is the use of debt (borrowed fund) while minimizing the use of equity. Leverage is a method that businesses utilize to enhance assets, cash flow, and profits, but it can also raise losses. To enhance leverage, a corporation can raise capital by issuing fixed-income securities or borrowing directly from a lender. A leverage ratio, often known as a debt ratio, describes and evaluates how much debt a firm or business incurs. Leverage ratios provide a broad perspective on a company's capital structures, financial health, and risk management abilities. For creditors, investors, and analysts, these measures are essential markers that show the risks and prudent paths in a company's financial environment. This ratio can help investors and credit providers determine a company's ability to repay its loans.

## II.LITERATURE REVIEW:

**Sarjeet Kaur, Rajinder Kaur, (2022)**, This article is based on the Measurement of degree of leverage for Indian manufacturing sector. Study on 20 BSE 500 index firms (10 Cement, 10 Iron and Steel) from 2010-11 to 2019-20 found negative coefficients in both Operating and Financial Leverage, showcasing leverage dynamics. **Priyanka Sharma, Ankit Saxena, Karishma Choudhary, (2021)** A Study on leverage analysis of Amul Anand milk union limited, Ahmedabad. The study investigates the relationship between financial leverage, return on equity, and risk using secondary data and convenience sampling. Findings suggest low leverage corresponds to lower risk, with decreased interest expenses indicating reduced financial leverage. **Wayan Agus Herawan Karang, Hermanto, Embun Suryan, (2020)** Effect

of Profitability and Leverage on Dividend Policy with Investment Opportunity Set as a Moderating Variables in Manufacturing Companies Listed on BEI Period 2014–2018. Study analyses profitability, leverage impact on dividend policy, with IOS moderation, among 20 manufacturing companies listed on BEI. The conclusions from the results of this study is Profitability has a significant positive effect on dividend policy. **Nguyet Thi Minh Phi, Farhad Taghizadeh-Hesary, (2019)**, This paper investigates ownership identity's impact on firm performance, finding government enterprises underperform compared to private firms. State-owned enterprises (SOEs) are less profitable, rely more on debt, and have higher labour costs. Privatization may enhance SOE's performance, but longer-term studies are needed for conclusive results. **Rosimar Laura Oliveira, Eduardo Kazuo Kayo (2017)**, Leverage and investment opportunities: the effect on high growth firms. This study examines how firm growth affects debt levels, using Brazilian data from 1995 to 2016. It addresses endogeneity with idiosyncratic technological shocks but faces limitations due to proxy reliance, suggesting cautious interpretation. **Luisa Anderloni, Alessandra Tanda, (2017)**, The Determinants of Leverage: A Comparative Analysis. This study assesses leverage determinants in non-US and non-Western European contexts, exploring pecking order, trade-off, and agency theories. Results from both random and fixed effects estimations reveal consistent findings, although some country characteristic variables are insignificant. **Joaquim Ferrao, Jose Dias Curto, Ana Paula Gama (2016)**, Low-leverage policy dynamics: an empirical analysis. This paper examines low leverage in US public firms (1987-2014), studying debt aversion shifts through financial constraints, flexibility, and distress, offering insights on financing decisions, particularly for low-leverage firms. **Sarang S. Waykole, Mukesh B. Ahirrao, Dr.V.S.Rana, (2015)**, This study is based is Leverage Analysis: Measuring impact on return on equity. The study examines three leverages in a midcap firm listed on NSE & BSE, observing sales fluctuations. Data from secondary sources are used. Conclusion highlights leverage analysis's significance for firms with high fixed costs, indicating its impact on shareholder returns amid revenue fluctuations. **Samuel H. Baker, (2014)**, A Study on Financial Performance of Risk, Leverage and Profitability: An Industry Analysis. This study explores the impact of financial leverage on industry profitability. The study aims to evaluate profitability and leverage analysis, with data sourced from company financial statements. Using a simultaneous equation approach, it confirms a negative association between profitability and leverage, highlighting its significance in understanding industry dynamics and risk. **Aloke Ghosh, Prem C.Jain , (2000)**, This study is based on the financial leverage changes associated with corporate mergers. The main objective of the study is to evaluate the merger- induced financial leverage. The study analyses 239 mergers sourced from Healy, opler and Weston showing diverse characteristics. The study concludes that significant increase in financial leverage post-merges, supporting the debt capacity hypothesis. Market returns correlate positively with leverage increases. **Larry Lang, Eli Ofek, Rene M.Stulz, (1996)** Leverage, investment, and firm growth, Leverage, investment, and firm growth. High leverage hampers growth, especially for diversified firms with low Tobin's, aligning with capital structure theories. Firms with debt may struggle to capitalize on growth opportunities or may waste cash on unproductive projects. **Dr. E. B. Khedkar, (2015)**, A study analysed leverage and profitability in Dr. Reddy's Laboratories from 2010-2014 using data from published annual reports. It employed ratio analysis and graphical representation, focusing on operating leverage. Results indicated leverage's impact on long-term financial performance. **Dinh Tran Ngoc Huy, (2015)**, The study is based on the study of Selecting Different Industrial Competitors Influence the Risk Level of Viet Nam Hardware Companies. During the 2007-2009 crisis, hardware firms faced strategy risks. This study analysed leverage's impact on equity shareholder returns via analytical and scenario methods, using financial data. Results suggest riskier marketing strategies may not always reduce market risk.

### III.STATEMENT OF THE PROBLEM

The oil business is critical to the global economy, and organizations operating in this area have particular problems and opportunities. Leverage ratio analysis is a critical first step in assessing the performance and financial health of oil companies. This study aims to conduct a comparative analysis on BPCL and HPCL in terms of their financial performance, Debt-to-Equity ratio, long term debt-to-equity ratio, debt-to-asset ratio, Debt-to-EBITDA ratio, asset to equity ratio, debt-to-capital ratio, financial leverage. This study seeks to identify key differences and similarities between the two companies to provide valuable insights for investors, stakeholders, and policymakers.

#### IV.SCOPE OF THE STUDY

Understanding financial management techniques and how they affect stability and performance is essential to studying leveraged businesses, whether high and low. Insights from this type of study help managers, stakeholders, and investors make deft choices about operational plans, regulatory frameworks, and investment allocation. A deeper understanding of financial markets and company behaviour can be gained by looking closely at these companies and identifying patterns and trends.

#### V.OBJECTIVE OF THE STUDY:

- To analyse the financial leverage from 2019 to 2023.
- To identify and compare the leverage ratios between BPCL and HPCL from 2019 -2023.
- To offer recommendations for optimizing leverage management based on comparative results.

#### VI.RESEARCH METHODOLOGY

The following is the methodology used in the study

##### Research Design:

The explanatory research design was applied in the research methodology of the study.

##### Source of Data:

This study based on the Secondary data. The Related information is collected from the publication annual reports of both the companies. The Annual reports contains the results of past performance is considered to be most important and most reliable source of financial of the concern.

##### Period of Study:

The Period of study is for 2019-2023

##### Tools and Technique:

Ratios used in this study:

- Debt-to-Equity ratio
- Long Term Debt-to-Equity Ratio
- Debt-to-Asset Ratio
- Debt-to-EBITDA ratio
- Asset to equity ratio
- Debt-to-capital ratio
- Financial leverage

#### LIMITATION OF THE STUDY

- The leverage analysis gives only on the aspect of Quantitative. It ignores the view of qualitative measurement.
- Information which is collected from secondary data may not be accurate and ensure.
- The five-year period of study is too limited. So, a deep and elaborate study could not be materialized.

#### VII.ABOUT THE COMPANY

##### BHARAT PETROLEUM CORPORATION LIMITED

Bharat Petroleum Corporation Limited (BPCL) is another prominent Indian oil and gas company. Like HPCL, it is a government-owned entity and operates in various segments of the petroleum industry. BPCL is primarily engaged in refining crude oil, marketing refined petroleum products, and exploring and producing crude oil and natural gas. BPCL owns and operates four major refineries in India, located in Mumbai, Kochi, Bina (Madhya Pradesh), and Numaligarh (Assam), with a combined refining capacity of over 38 million metric tonnes per annum. The company also has a strong presence in the marketing and distribution of petroleum products, with a vast network of retail outlets across the country under the brand name "Bharat Gas".

**HINDHUSTHAN PETROLEUM CORPORATION LIMITED**

Hindustan Petroleum Corporation Limited (HPCL) is a leading Indian oil and gas company. It is a subsidiary of Oil and Natural Gas Corporation Limited (ONGC), which is owned by the Government of India. HPCL is involved in refining, marketing, and distribution of petroleum products. It operates two major refineries in India, one in Mumbai and the other in Visakhapatnam, with a total refining capacity of over 18 million metric tonnes per annum. HPCL is also engaged in various other activities including exploration & production, petrochemicals, and lubricants.

**VIII. RATIOS****DEBT-TO-EQUITY RATIO**

The debt-to-equity (D/E) ratio measures a company's financial leverage by comparing its total liabilities to shareholders' equity. It indicates how much debt is used to finance assets relative to equity, serving as a key indicator of financial risk.

**FORMULA**

$$\text{DEBT-TO-EQUITY RATIO} = \frac{\text{Total Debt}}{\text{Shareholder's Equity}}$$

**TABLE 4.1.1**

**TABLE SHOWING DEBT-TO-EQUITY RATIO  
FOR BHARAT PETROLEUM CORPORATION  
LIMITED**  
(Rs in crores)

YEAR	TOTAL DEBT	SHAREHOLDERS' EQUITY	DEBT-TO-EQUITY RATIO
2018-2019	42914.53	38764.72	1.11
2019-2020	55839.04	36532.34	1.53
2020-2021	39973.03	53555.08	0.75
2021-2022	55932.68	51905.62	1.08
2022-2023	60454.61	53522.36	1.13
AVERAGE	-	-	1.12

(Source: Money control)

**INTERPRETATION**

The above table shows that the Debt-to-equity ratio in the year 2018-2019 as 1.11, increased to 1.53 in the year 2019-2020, decreased to 0.75 in the year 2020-2021, increased to 1.08 in the year 2021-2022 and increased to 1.13 in the year 2022-2023.

**INFERENCE**

Debt-to-Equity ratio is highest 1.53 in the year 2019-2020 and lowest 0.75 in the year 2020-2021

**TABLE 4.1.2**  
**TABLE SHOWING DEBT-TO-EQUITY RATIO**  
**FOR HINDUSTAN PETROLEUM**  
**CORPORATION LIMITED**

(Rs in crores)

YEAR	TOTAL DEBT	SHAREHOLDERS' EQUITY	DEBT-TO-EQUITY RATIO
2018-2019	26036.48	30400.66	0.86
2019-2020	39385.75	30980.62	1.27
2020-2021	42674.07	38080.86	1.12
2021-2022	44978.73	41404.21	1.09
2022-2023	67048.3	32263.27	2.08
AVERAGE	-	-	1.28

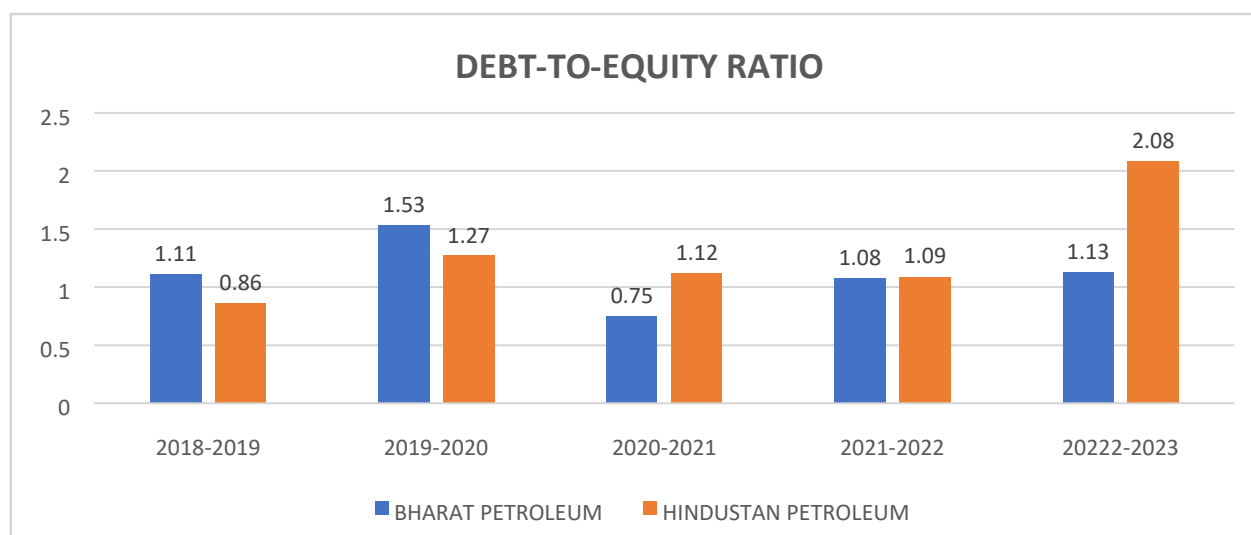
(Source: Money control)

**INTERPRETATION**

The above table shows that the Debt-to-equity ratio in the year 2018-2019 as 0.86, increased to 1.27 in the year 2019-2020, decreased to 1.12 in the year 2020-2021, decreased to 1.09 in the year 2021-2022 and increased to 2.08 in the year 2022-2023.

**INFERENCE**

Debt-to-Equity ratio is highest 2.08 in the year 2022-2023 and lowest 0.86 in the year 2018-2019



- Over the course of the five-year period, HPCL's average Debt-to-Equity Ratio (1.28) is larger than BPCL's (1.12). It implies that, in comparison to BPCL, HPCL has, on average, employed more debt financing than equity.
- HPCL's Debt-to-Equity ratio, which ranges from 0.86 to 2.08, varies significantly over time. This implies fluctuating levels of reliance on financing from debt over the time period.
- In comparison to HPCL, BPCL's Debt-to-Equity ratio fluctuates less and frequently remains at lower levels. This suggests that BPCL is taking a less risky strategy to debt borrowing.

## LONG TERM DEBT-TO-EQUITY RATIO

The debt ratio, or debt-to-asset ratio, measures the proportion of a company's assets financed by debt, indicating its financial leverage. Analysts use this metric to compare stability among companies in the same sector. A lower ratio suggests stronger financial health with less debt reliance, while a higher ratio indicates greater dependence on debt financing, increasing financial risk.

### FORMULA

$$\text{LONG TERM DEBT-TO-EQUITY RATIO} = \frac{\text{Long Term Debt}}{\text{Shareholder's Equity}}$$

**TABLE 4.2.1**  
**TABLE SHOWING LONG-TERM DEBT-TO-EQUITY RATIO**  
**FOR BHARAT PETROLEUM CORPORATION**  
**LIMITED**  
 (Rs in crores)

YEAR	LONG TERM DEBT	SHAREHOLDER'S EQUITY	LONG - TERM DEBT-TO-EQUITY RATIO
2018-2019	34315.58	38764.72	0.89
2019-2020	38043.89	36532.45	1.04
2020-2021	35740.22	53555.08	0.67
2021-2022	36358.93	51905.62	0.70
2022-2023	41369.36	53522.36	0.77
AVERAGE	-	-	0.81

(Source: Money control)

**INTERPRETATION**

The above table shows that long term Debt-to-Equity ratio in the year 2018-2019 as 0.89, increased to 1.04 in the year 2019-2020, decreased to 0.67 in the year 2020-2021, increased to 0.70 in the year 2021-2022 and increased to 0.77 in the year 2022-2023.

**INFERENCE**

Long term Debt-to-Equity ratio is highest 1.04 in the year 2019-2020 and lowest 0.67 in the year 2020-2021

**TABLE 4.2.2**

**TABLE SHOWING LONG-TERM DEBT-TO-EQUITY RATIO  
FOR HINDUSTAN PETROLEUM CORPORATION LIMITED**

(Rs in crores)

<b>YEAR</b>	<b>LONG TERM DEBT</b>	<b>SHAREHOLDER'S EQUITY</b>	<b>LONG - TERM DEBT-TO-EQUITY RATIO</b>
2018-2019	12127.80	30400.66	0.40
2019-2020	23109.63	30980.62	0.75
2020-2021	27764.42	38080.86	0.73
2021-2022	32115.28	41404.21	0.78
2022-2023	48171.47	32263.27	1.49
AVERAGE	-	-	0.83

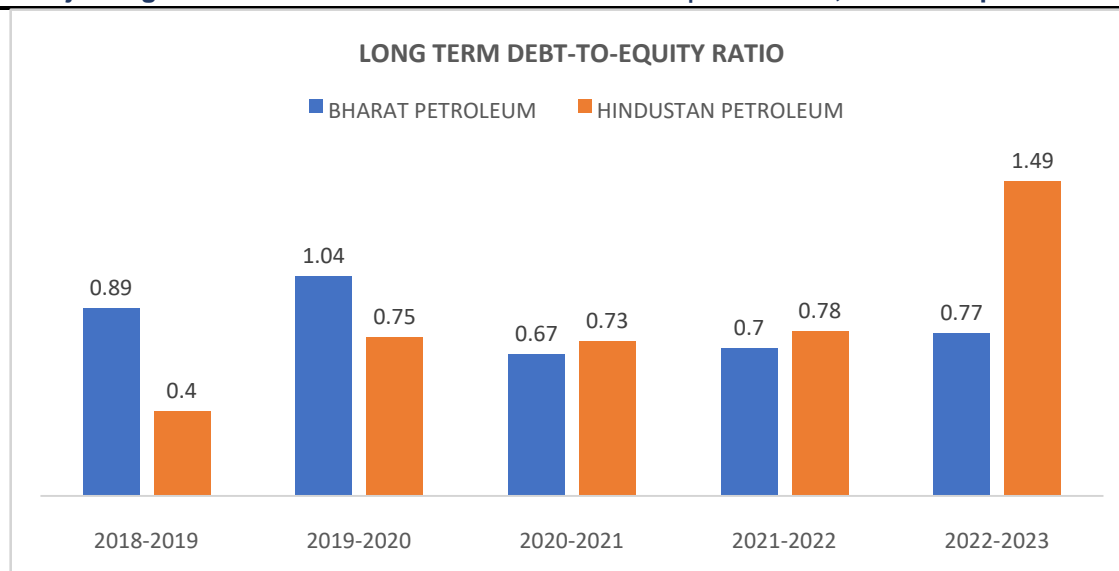
(Source: Money control)

**INTERPRETATION**

The above table shows that long term Debt-to-Equity ratio in the year 2018-2019 as 0.40, increased to 0.75 in the year 2019-2020, decreased to 0.73 in the year 2020-2021, increased to 0.78 in the year 2021-2022 and increased to 1.49 in the year 2022-2023.

**INFERENCE**

Long term Debt-to-Equity ratio is highest 1.49 in the year 2022-2023 and lowest 0.40 in the year 2018-2019.



- HPCL has a higher average Long-Term Debt-to-Equity Ratio (0.83) compared to BPCL (0.81) over the five-year period. This indicates that, on average, HPCL relies more on long-term debt relative to its equity compared to BPCL.
- Both companies have shown fluctuations in their long-term debt-to-equity ratios over the years.
- While BPCL's fluctuations have been relatively moderate, HPCL's ratio has shown a more significant increase, particularly in the last year.

### DEBT-TO-ASSET RATIO

The debt ratio, or debt-to-asset ratio, measures the proportion of a company's assets financed by debt, indicating its financial leverage. Analysts use this metric to compare stability among companies in the same sector. A lower ratio suggests stronger financial health with less debt reliance, while a higher ratio indicates greater dependence on debt financing, increasing financial risk.

### FORMULA

$$\text{DEBT-TO-ASSET RATIO} = \frac{\text{Total Debt}}{\text{Total Asset}}$$

TABLE 4.3.1

**TABLE SHOWING DEBT-TO-ASSET RATIO  
FOR BHARAT PETROLEUM CORPORATION  
LIMITED**

(Rs in crores)

YEAR	TOTAL DEBT	TOTAL ASSETS	DEBT-TO-ASSET RATIO
2018-2019	42914.53	136930.38	0.31
2019-2020	55839.04	150863.56	0.37
2020-2021	39973.03	160992.03	0.25
2021-2022	55932.68	187528.63	0.30
2022-2023	60454.61	188108.77	0.32
AVERAGE	-	-	0.31

(Source: Money control)

**INTERPRETATION**

The above table shows that Debt-to-asset ratio in the year 2018-2019 as 0.31, increased to 0.37 in the year 2019-2020, decreased to 0.25 in the year 2020-2021, increased to 0.30 in the year 2021-2022 and increased to 0.32 in the year 2022-2023.

**INFERENCE**

Debt-to-asset ratio is highest 0.37 in the year 2019-2020 and lowest 0.25 in the year 2020-2021

TABLE 4.3.2

**TABLE SHOWING DEBT-TO-ASSET RATIO  
FOR HINDUSTAN PETROLEUM  
CORPORATION LIMITED**

(Rs in crores)

YEAR	TOTAL DEBT	TOTAL ASSETS	DEBT-TO-ASSET RATIO
2018-2019	26036.48	107258.36	0.24
2019-2020	39385.75	116906.20	0.34
2020-2021	42674.07	134159.71	0.32
2021-2022	44978.73	154628.19	0.29

2022-2023	67048.3	161339.51	0.42
AVERAGE	-	-	0.32

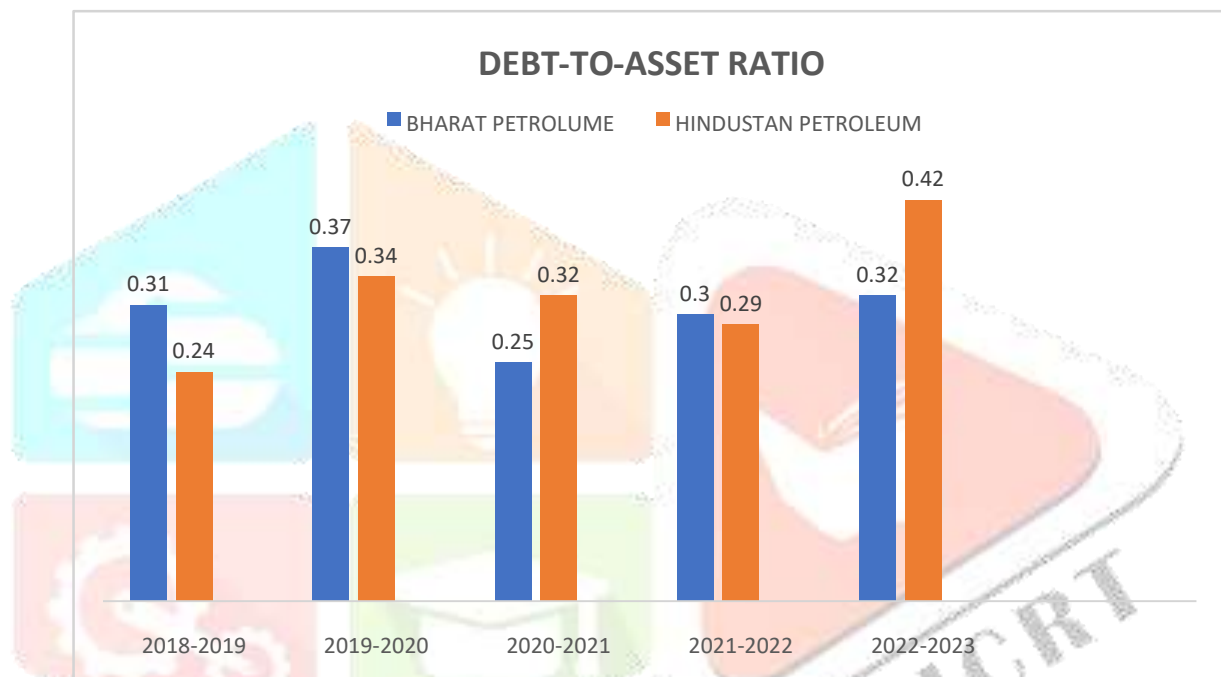
(Source: Money control)

## INTERPRETATION

The above table shows that Debt-to-asset ratio in the year 2018-2019 as 0.24, increased to 0.34 in the year 2019-2020, decreased to 0.32 in the year 2020-2021, decreased to 0.29 in the year 2021-2022 and increased to 0.42 in the year 2022-2023.

## INFERENCE

Debt-to-asset ratio is highest 0.42 in the year 2022-2023 and lowest 0.24 in the year 2018-2019.



- HPCL has a higher average Debt-to Asset Ratio (0.32) compared to BPCL (0.31) over the five-year period.
- Both BPCL and HPCL have maintained relatively stable debt-to-asset ratios over the years, with some minor fluctuations.
- Both companies have a moderate debt-to-asset ratio, indicating a balanced capital structure.

## DEBT-TO-EBITDA RATIO

The net debt-to-EBITDA ratio measures leverage by subtracting a company's cash and cash equivalents from its interest-bearing liabilities. It indicates how many years it would take to repay debt if net debt and EBITDA remain constant. A negative ratio suggests more cash than debt. Unlike the debt/EBITDA ratio, the net ratio accounts for cash, providing a clearer view of financial leverage.

## FORMULA

$$\text{Debt-to-EBITDA} = \frac{\text{Total Debt}}{\text{EBITDA}}$$

TABLE 4.4.1

**TABLE SHOWING DEBT-TO-EBITDA RATIO  
FOR BHARAT PETROLEUM CORPORATION  
LIMITED**  
(Rs in crores)

YEAR	TOTAL DEBT	EBITDA	DEBT-TO-EBITDA RATIO
2018-2019	42914.53	17149.77	2.50
2019-2020	55839.04	8968.00	6.23
2020-2021	39973.03	28815.17	1.39
2021-2022	55932.68	22541.03	2.48
2022-2023	60454.61	10743.41	5.63
AVERAGE	-	-	3.64

(Source: Money control)

### INTERPRETATION

The above table shows Debt-to-EBITDA ratio in the year 2018-2019 as 2.50, increased to 6.23 in the year 2019-2020, decreased to 1.39 in the year 2020-2021 increased to 2.48 in the year 2021-2022 and increased to 5.63 in the year 2022-2023.

### INFERENCE

Debt-to-EBITDA ratio is highest 6.23 in the year 2019-2020 and lowest 1.39 in the year 2020-2021

TABLE 4.4.2

**TABLE SHOWING DEBT-TO-EBITDA RATIO  
FOR HINDUSTAN PETROLEUM CORPORATION LIMITED**

(Rs in crores)

YEAR	TOTAL DEBT	EBITDA	DEBT-TO-EBITDA RATIO
2018-2019	26036.48	13683.67	1.90
2019-2020	39385.75	5516.77	7.14
2020-2021	42674.07	18762.12	2.27
2021-2022	44978.73	14141.30	3.18

2022-2023	67048.3	-5741.17	-11.68
AVERAGE	-	-	0.56

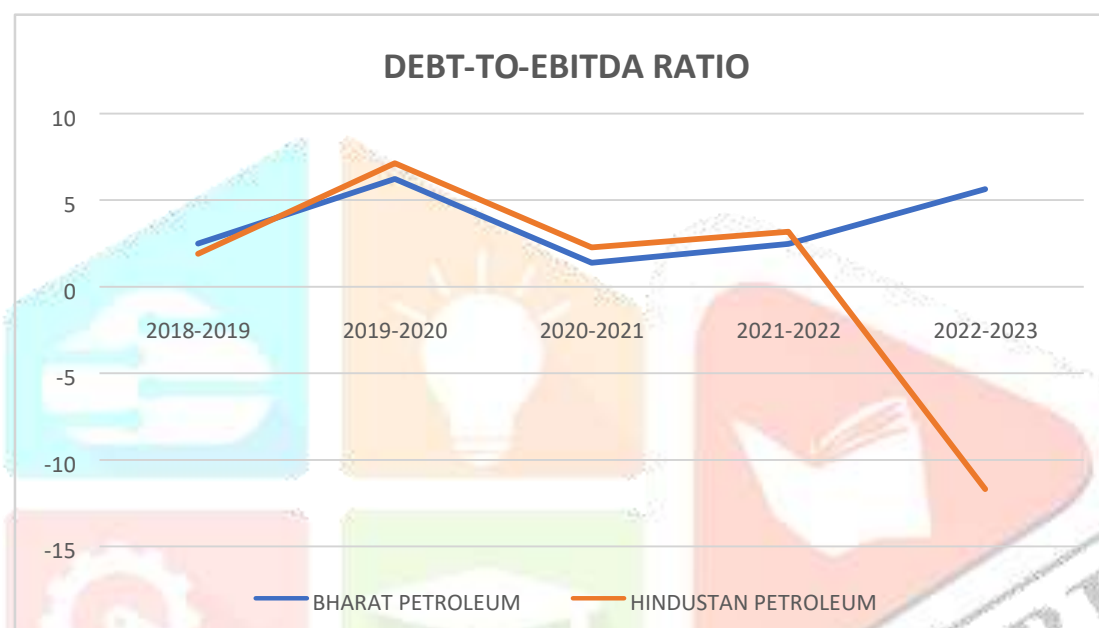
(Source: Money control)

## INTERPRETATION

The above table shows that Debt-to-EBITDA ratio in the year 2018-2019 as 1.90, increased to 7.14 in the year 2019-2020, decreased to 2.27 in the year 2020-2021, increased to 3.18 in the year 2021-2022 and decreased to -11.68 in the year 2022-2023.

## INFERENCE

Debt-to-EBITDA ratio is highest 7.14 in the year 2019-2020 and lowest -11.68 in the year 2022-2023.



- BPCL has a higher average Debt-to-EBITDA (3.64) compared to HPCL (0.56) over the five-year period. This indicates that, on average, BPCL relies more on debt-to-EBITDA
- Both BPCL and HPCL shows Debt-to-EBITDA ratio over the years with some fluctuations.
- Both organizations' Debt-to-EBITDA are moderate, indicating a balanced capital structure.

## ASSET TO EQUITY RATIO

The asset/equity ratio compares a firm's total assets to shareholder equity, measuring financial leverage. Its value varies by industry and economic conditions, making it useful for comparisons among similar companies. A high ratio may indicate significant debt, potentially suggesting financial instability, or it could reflect effective use of borrowed capital if returns exceed costs.

## FORMULA

$$\text{ASSET TO EQUITY RATIO} = \frac{\text{Total assets}}{\text{Total equity}}$$

**TABLE 4.5.1****TABLE SHOWING ASSETS- TO EQUITY RATIO  
FOR BHARAT PETROLEUM CORPORATION LIMITED**

(Rs in crores)

YEAR	TOTAL ASSETS	TOTAL EQUITY	ASSETS- TO EQUITY RATIO
2018-2019	136,930.38	38764.72	3.53
2019-2020	150863.56	36532.34	4.13
2020-2021	160992.03	53555.08	3.01
2021-2022	187528.63	51905.62	3.61
2022-2023	188108.77	53522.36	3.51
AVERAGE	-	-	3.59

(Source: Money control)

**INTERPRETATION**

The above table shows that assets- to equity ratio in the year 2018-2019 as 3.53, increased to 4.13 in the year 2019-2020, decreased to 3.01 in the year 2020-2021, increased to 3.61 in the year 2021-2022 and decreased to 3.51 in the year 2022-2023.

**INFERENCE**

Assets- to equity ratio is highest 4.13 in the year 2019-2020 and lowest 3.01 in the year 2020-2021

**TABLE 4.5.2****TABLE SHOWING ASSETS- TO EQUITY RATIO  
FOR HINDUSTAN PETROLEUM CORPORATION LIMITED**

(Rs in crores)

YEAR	TOTAL ASSETS	TOTAL EQUITY	ASSETS- TO EQUITY RATIO
2018-2019	107258.36	30400.66	3.53
2019-2020	116906.20	30980.62	3.77
2020-2021	134159.71	38080.86	3.52
2021-2022	154628.19	41404.21	3.73
2022-2023	161339.51	32263.27	5.00
AVERAGE	-	-	3.91

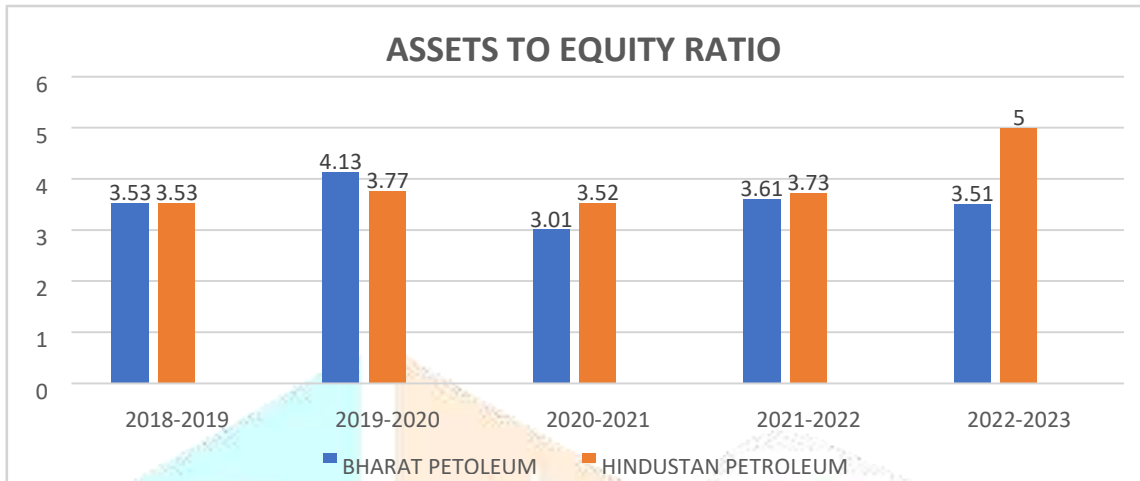
(Source: Money control)

## INTERPRETATION

The above table shows that assets- to equity ratio in the year 2018-2019 as 3.53, increased to 3.77 in the year 2019-2020, decreased to 3.52 in the year 2020-2021, increased to 3.73 in the year 2021-2022 and increased to 5.00 in the year 2022-2023.

## INFERENCE

Assets- to equity ratio is highest 5.00 in the year 2022-2023 and lowest 3.52 in the year 2020-2021.



- The assets-to-equity ratio for BPCL has fluctuated over time, but it has consistently remained within a relatively narrow range, indicating a moderate level of leverage and risk.
- In contrast, HPCL's ratio fluctuates more significantly, with a considerable increase from 2022 to 2023.
- This shows that HPCL may have faced a period of significant investment or asset growth, which could indicate a more aggressive financial strategy or expansion plans compared to BPCL.

## DEBT-TO-CAPITAL RATIO

The debt-to-capital ratio (D/C ratio) assesses a company's financial leverage by comparing total liabilities to total capital. In other words, the debt-to-capital ratio formula calculates the proportion of debt a company utilizes to fund its continuing operations over capital. This financial statistic can help you understand a variety of aspects of your organization, including capital structure and financial solvency.

## FORMULA

Total Debt

DEBT-TO-CAPITAL RATIO = \_\_\_\_\_

Total Debt+ Total Equity

TABLE 4.6.1

**TABLE SOWING DEBT-TO-CAPITAL RATIO  
FOR BHARAT PETROLEUM CORPORATION LIMITED**

(Rs in crores)

YEAR	TOTAL DEBT	TOTAL DEBT + TOTAL EQUITY	DEBT- TOCAPITAL RATIO
2018-2019	42914.53	81679.25	0.53
2019-2020	55839.04	92371.38	0.60
2020-2021	39973.03	93528.11	0.43
2021-2022	55932.68	107838.3	0.52
2022-2023	60454.61	113976.97	0.53
AVERAGE	-90578.71	-	0.52

(Source: Money control)

**INTERPRETATION**

The above table shows that Debt-to-Capital ratio in the year 2018-2019 as 0.53, increased to 0.60 in the year 2019-2020, decreased to 0.43 in the year 2020-2021, increased to 0.52 in the year 2021-2022 and increased to 0.53 in the year 2022-2023.

**INFERENCE**

Debt-to-Capital ratio is highest 0.60 in the year 2019-2020 and lowest 0.43 in the year 2020-2021

TABLE 4.6.2

**TABLE SHOWING DEBT-TO-CAPITAL RATIO  
FOR HINDUSTAN PETROLEUM  
CORPORATION LIMITED**

(Rs in crores)

YEAR	TOTAL DEBT	TOTAL DEBT + TOTAL EQUITY	DEBT-TO- CAPITAL RATIO
2018-2019	26036.48	56437.14	0.46
2019-2020	39385.75	70366.37	0.56
2020-2021	42674.07	80754.93	0.53
2021-2022	44978.73	86382.94	0.52

2022-2023	67048.3	99311.57	0.68
AVERAGE	-	-	0.55

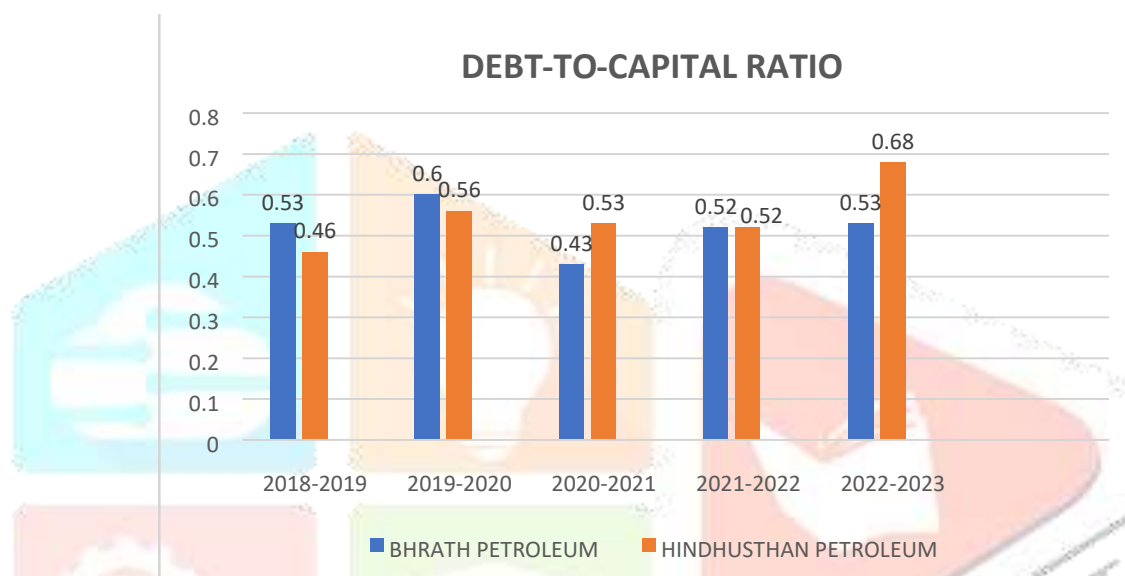
(Source: Money control)

## INTERPRETATION

The above table shows that Debt-to-Capital ratio in the year 2018-2019 as 0.46, increased to 0.56 in the year 2019-2020, decreased to 0.53 in the year 2020-2021, decreased to 0.52 in the year 2021-2022 and increased to 0.68 in the year 2022-2023.

## INFERENCE

Debt-to-Capital ratio is highest 0.68 in the year 2022-2023 and lowest 0.46 in the year 2018-2019.



- Both BPCL and HPCL have experienced fluctuations in their Debt-to-Capital ratios over the years, indicating changes in their capital structure and leverage positions.
- A higher Debt-to-Capital ratio implies a higher proportion of debt financing in relation to equity financing, which can increase financial risk and interest expenses.
- The decrease in the Debt-to-Capital ratio suggests a reduction in debt reliance or an increase in capital relative to debt, which can improve financial stability and reduce interest expenses.

## FINANCIAL LEVERAGE

Financial leverage focuses on raising cash from sources with fixed charges, such as preferential shares and long-term debt (e.g., bonds, debentures). Long-term debt comes with a mandatory interest rate and has priority over equity in terms of income and assets. Typically, its interest rate is lower than the expected return for equity shareholders, and interest payments are tax-deductible. EBIT stands for Earnings Before Interest and Tax, while PBT stands for Profit Before Tax.

**FORMULA**

EBIT

Financial leverage = \_\_\_\_\_

PBT

**TABLE 4.7.1****TABLE SHOWING FINANCIAL LEVERAGE  
FOR BHARAT PETROLEUM CORPORATION  
LIMITED**

(Rs in crores)

<b>YEAR</b>	<b>EBIT</b>	<b>PBT</b>	<b>FINANCIAL LEVERAGE</b>
2018-2019	13732.00	11968.05	1.15
2019-2020	4887.91	2250.90	2.17
2020-2021	24480.96	22757.55	1.08
2021-2022	17106.68	14501.04	1.18
2022-2023	4374.59	629.21	6.95
AVERAGE	-	-	2.50

(Source: Money control)

**INTERPRETATION**

The above table shows that financial leverage in the year 2018-2019 as 1.15, increased to 2.17 in the year 2019-2020, decreased to 1.08 in the year 2020-2021, increased to 1.18 in the year 2021-2022 and increased to 6.95 in the year 2022-2023.

**INFERENCE**

Financial leverage is highest 6.95 in the year 2022-2023 and lowest 1.08 in the year 2020-2021

**TABLE 4.7.2**

**TABLE SHOWING FINANCIAL LEVERAGE  
FOR HINDUSTAN PETROLEUM CORPORATION  
LIMITED** (Rs in crores)

YEAR	EBIT	PBT	FINANCIAL LEVERAGE
2018-2019	10598.36	9109.47	1.16
2019-2020	2146.90	1832.46	1.17
2020-2021	15136.65	14058.34	1.08
2021-2022	10140.94	7685.57	1.32
2022-2023	-10301.32	-12475.43	-0.83
AVERAGE	-	-	0.78

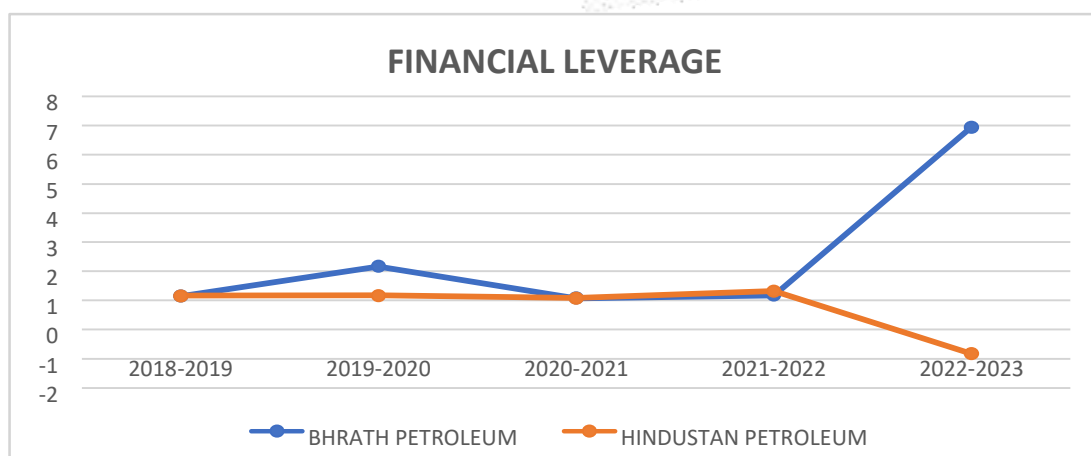
(Source: Money control)

**INTERPRETATION**

The above table shows that financial leverage in the year 2018-2019 as 1.16, increased to 1.17 in the year 2019-2020, decreased to 1.08 in the year 2020-2021, increased to 1.32 in the year 2021-2022 and decreased to – 0.83 in the year 2022-2023.

**INFERENCE**

Financial leverage is highest 1.32 in the year 2021-2022 and lowest – 0.83 in the year 2022-2023.



- BPCL has shown significant fluctuations in its financial leverage ratio over the years, with a substantial increase in 2022-2023 raising concerns about increased debt levels.
- HPCL, on the other hand, has exhibited relatively stable financial leverage ratios, with a notable decrease in 2022-2023, which requires further investigation due to the negative value reported.
- Both companies need to closely monitor their financial leverage ratios to ensure they maintain a healthy balance between debt and equity financing.
- A sharp increase in the financial leverage ratio, as seen in BPCL in 2022-2023, may signal heightened financial risk and requires careful management.
- HPCL's unexpected negative financial leverage ratio in 2022-2023 should be investigated to ensure accurate financial reporting and address any underlying issues.

**TABLE SHOWING ALL RATIOS OF BPCL AND HPCL**

RATIOS	2018-2019		2019-2020		2020-2021		2021-2022		2022-2023	
	BPCL	HPCL	BPCL	HPCL	BPCL	HPCL	BPCL	HPCL	BPCL	HPCL
Debt-to-Equity ratio	1.11	0.86	1.53	1.27	0.75	1.12	1.08	1.09	1.13	2.08
Long Term Debt-to Equity Ratio	0.89	0.40	1.04	0.75	0.67	0.73	0.70	0.78	0.77	1.49
Debt-to-Asset Ratio	0.31	0.24	0.37	0.34	0.25	0.32	0.30	0.29	0.32	0.42
Debt-to-EBITDA ratio	2.50	1.90	6.23	7.14	1.39	2.27	2.48	3.18	5.63	-11.68
Asset to equity ratio	3.53	3.53	4.13	3.77	3.01	3.52	3.61	3.73	3.51	5.00
Debt-to-capital ratio	0.53	0.46	0.60	0.56	0.43	0.53	0.52	0.52	0.53	0.68
Financial leverage	1.15	1.16	2.17	1.17	1.08	1.08	1.18	1.32	6.95	-0.83

## IX.FINDINGS

- BPCL's debt-to-equity ratio peaked at 1.13 in 2022-2023 and decreased to 0.75 in 2020-2021. HPCL's ratio peaked at 2.08 in 2022-2023 and decreased to 0.86 in 2018-2019, indicating a shifting capital structure.
- BPCL has a long-term debt-to-equity ratio of 1.136 in 2019-2020 and 0.70 in 2021-2022, while HPCL's ratio is 1.49 in 2022-2023 and 0.40 in 2018-2019.
- Both BPCL and HPCL have good debt-to-asset ratio. BPCL's Debt-to-asset ratio is highest 0.37 in the year 2019-2020 and lowest 0.25 in the year 2020-2021. HPCL's Debt-to-asset ratio is highest 0.42 in the year 2022-2023 and lowest 0.24 in the year 2018-2019.
- Debt-to-EBITDA ratio is highest 6.22 in the year 2019-2020 and lowest 1.39 in the year 2020-2021 for BPCL and Debt-to-EBITDA ratio is highest 7.13 in the year 2019-2020 and lowest -11.68 in the year 2022-2023 for HPCL
- The Asset-to-equity ratio for BPCL has fluctuated over time, but it has consistently remained within a relatively narrow range, whereas HPCL's ratio rose to 5.00 in 2022-2023, indicating active investment and risk management.
- Debt-to-Capital ratio is highest 0.60 in the year 2019-2020 and lowest 0.43 in the year 2020-2021 for BPCL. Debt-to-Capital ratio is highest 0.68 in the year 2022-2023 and lowest 0.46 in the year 2018-2019 for HPCL.
- BPCL's financial leverage ranged from 1.07 in 2020-2021 to 6.95 in 2022-2023, indicating changes in debt management and investment policies. HPCL's ratio fluctuated less, from -0.83 in 2022-2023 to 1.32 in 2021-2022.

**X.SUGGESTIONS:**

- BPCL and HPCL should prioritize risk management strategies to mitigate the increased financial risk associated with high debt-to-equity ratios.
- BPCL and HPCL should develop and implement structured debt repayment plans can help in reducing debt levels over time, enhancing financial stability.
- BPCL and HPCL should explore the alternative funding sources beyond traditional debt financing, such as equity financing or joint ventures, can reduce reliance on debt and diversify funding streams.
- BPCL and HPCL should improve the operational efficiency and profitability can generate internal funds to reduce reliance on external debt financing.
- It may be beneficial for HPCL and BPCL to assess their capital structure and explore opportunities to optimize it by balancing debt and equity financing more effectively.

**XI.CONCLUSION:**

This study on leverage performance of BPCL and HPCL was undertaken for the period of 2018-2019 to 2022-2023 using various leverage ratios like Debt-to-equity ratio, Long-term Debt-to-equity ratio, Debt-to-asset ratio, Debt-to-EBITDA ratio, Asset-to-equity ratio, Debt-to-capital ratio and financial leverage. From the analysis it is concluded that both BPCL and HPCL are maintaining a good debt management. Both companies experienced fluctuations. In general, both BPCL and HPCL have achieved tremendous progress over the recent years. Both the company's performance is satisfactory.

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