



To cite this article: Dr. Yashaswi Dubey (2026). DESCRIPTIVE ANALYSIS OF THE DYNAMIC STRUCTURE OF CAPITAL AND RISK IN NTPC, International Journal of Research in Commerce and Management Studies (IJRCMS) 8 (3): 573-587 Article No. 775 Sub Id 1282

DESCRIPTIVE ANALYSIS OF THE DYNAMIC STRUCTURE OF CAPITAL AND RISK IN NTPC

Dr. Yashaswi Dubey

Lecturer, Department of Education, Madhya Pradesh

DOI: <https://doi.org/10.38193/IJRCMS.2026.8337>

ABSTRACT

Capital and risk are one of the most critical areas for top managers. It has always been an area of interest for researcher to understand the relationship between capital structure and risk. This particular paper will examine the capital structure of NTPC for a period of five years from 2017-18 to 2023-24. The research work is done to analyze the combination of debt and equity which is utilized by the company for its overall operation and growth. The objective is to analyze the earnings before interest and tax (EBIT) which shows financial position of a company. To define the process of debt and equity study of NTPC various ratios calculated from balance sheet and income statement are analyzed in the paper. NTPC and its financial position can be very well judged by its financial leverage, earning per share, operating leverage, debt-equity ratio.

KEYWORDS: EPS ratio, debt-equity ratio, operating leverage, financial leverage

INTRODUCTION

The essential requirement to start a company is capital. Capital is a large sum of money which an entity uses to start a business or which an entity invests in order to make more money. The capital structure is the way a firm finances its general activity and improvement by using unmistakable wellspring of stores. It suggests to the mixture of debt and equity. Debt and equity both are present in balance sheet, company asset is also recorded in balance sheet and are acquired with this debt and equity. Capital structure is the blend of various wellsprings of long-haul assets in the absolute capital of the organization value, inclination shares, debenture, and retained earnings. When we suggest capital structure is its most likely we are referring to firm debt to equity (D/E). The extent of debt and equity advises how much an organization is financing its activity through debt versus completely claimed funds. Generally, a company with high debt is viewed as a higher danger to loan specialist and speculators since it recommends that an organization is financing a lot of its possible development through borrowing. Debt is one of the major ways through which company raise money in market because it also helps in tax advantages and interest payment are also tax deductible. Debt is cheaper than equity because interest cost is lower than dividends. Unlike debt equity does not need to pay

back. Similarly, when a company uses more debt than equity it shows high leverage ratio and conservative capital structure. In this paper the study of different leverage ratios is done and its utilization with respect to money related soundness of NTPC. NTPC expansion is national thermal power corporation. Ntpc core business is generation of electricity with other allied activities. NTPC was found in the year 1975 from that point forward it has built up itself as a predominant force major with nearness in the whole worth chain of the power generation business. In May 2010, NTPC was formed as a Maharatana company, with 10 Maharatnas CPSEs in India in January 2020. In the top 250 rankings of the global energy company plates, NTPC ranks as the number 2 Independent Power Product (IPP). NTPC administrations incorporate generation of electricity, appropriation of flammable gas, transportation, and conveyance.

To expand its energy generation business, NTPC joined BHEL, SAIL, NMDC, and NPCIL. At high performance, NTPC operates its factory. At high performance, NTPC operates its factory. The company's total capacity was 15.5% as at 31.03.2019 and 22.3% of total power generation was produced through a high efficiency emphasis.

2. REVIEW OF LITERATURE:

1. **Chakrawal, Al K., and Pratibha Goyal (2018):** In their analysis of National Thermal Power Corporation (NTPC), the authors examine the company's performance measurement and management using the balanced scorecard approach. They discuss how NTPC attains its core values and business objectives by analyzing various parameters, including debt-equity ratios and capital structure. Their study emphasizes the importance of risk management within NTPC's operations.
2. **Mishra, Pavan:** This paper focuses on the financial strength of NTPC, specifically assessing its profitability, liquidity, and solvency. The author highlights NTPC's performance in the broader context of the electric power sector in India, noting key metrics that inform its financial health and operational efficiency.
3. **Dr. Pradip Kumar Das (2017):** This study investigates the relationship between capital structure and earnings per share (EPS) in selected Indian automobile companies. The findings suggest that capital structure has no significant impact on EPS. However, the author notes limitations regarding the sample size, indicating that capital structure effects may vary across different companies and industries. The study suggests that an appropriate capital structure can lead to higher EPS.
4. **Dr. Rakesh Kumar Rasikal Jain (2015):** In this research, the author examines the determinants of capital structure in the automobile industry, focusing on the relationship between the debt-equity ratio and several financial indicators, including the interest coverage



ratio and returns on net worth. The study spans from 2008-09 to 2012-13 and concludes that manufacturing companies tend to rely more on debt, while service sector firms favor equity. Recommendations include prioritizing internal funds, followed by debt, and then owner's equity for financing.

5. **Kankan Deka (2014):** This paper analyzes the capital structure of Indian Oil Corporation Limited (IOCL), investigating its share capital and the composition of debt and equity from 2010 to 2014. The study reveals that IOCL operates with a low debt fund and recommends increasing debt to benefit from lower capital costs. It emphasizes the need for improved EBIT to attract investors, along with the prudent utilization of borrowed funds in key areas.
6. **Brahmadev Panda, Siba Prasad Mohapatra, and Samson Mohara (2013):** This research focuses on the capital structure of Indian steel companies, identifying factors that significantly affect the debt ratio. The authors examine eight explanatory variables, including risk, growth, size, and asset structure. They conclude that high-risk factors deter lenders, suggesting a need to mitigate these risks to maintain attractive financing options.
7. **Kumar, Sanjay, and R. S. Sinha (2016):** "Impact of Capital Structure on Financial Performance: A Study of Selected Indian Companies." This paper examines how different capital structure decisions impact the financial performance of firms across various sectors in India. The authors find that a balanced approach to debt and equity financing leads to optimal financial outcomes.
8. **Ravi, V. K., and S. K. Kiran (2019):** "Debt-Equity Mix and its Impact on Profitability: Evidence from Indian Manufacturing Sector." This study analyzes the relationship between debt-equity ratios and profitability metrics within the Indian manufacturing context, highlighting the importance of strategic capital structuring in enhancing firm performance.
9. **Bhatia, R., and A. Bansal (2018):** "Financial Performance Analysis of Public Sector Enterprises in India." This research assesses the financial health of various public sector enterprises, including NTPC, through liquidity, profitability, and solvency ratios, offering comparative insights that emphasize the role of governance in financial outcomes.
10. **Sharma, R., and N. Kumar (2020):** "A Comparative Study of Capital Structure and Financial Performance of PSUs and Private Sector Firms." This paper contrasts the capital structure and financial performance of public sector undertakings (PSUs) and private firms in India, revealing that PSUs often maintain more conservative capital structures, which can impact their growth potential.



11. **Singh, M., and D. Gupta (2015):** "Capital Structure and Business Performance: A Study of Selected Indian Firms." This study investigates how variations in capital structure influence overall business performance, concluding that firms with an optimal mix of debt and equity tend to achieve better financial outcomes.
12. **Bansal, S., and Gupta, A. (2022):** "Impact of Capital Structure on Financial Performance: Evidence from Indian Energy Sector." This research investigates how capital structure choices impact profitability and liquidity in energy firms, including NTPC, highlighting the sector's unique challenges and opportunities.
13. **Kumar, S., and Sharma, R. (2023):** "Financial Performance and Capital Structure in Indian Public Sector Undertakings: An Empirical Analysis." This study examines the financial performance metrics of various PSUs, providing insights into how capital structure decisions affect their operational efficiency and market competitiveness.
14. **Singh, M., and Jain, V. (2023):** "Debt and Equity Financing Decisions in Indian Manufacturing: An Analysis of Performance Outcomes." This research explores how different financing strategies impact financial performance metrics, revealing trends in the manufacturing sector toward a more balanced capital structure.
15. **Choudhury, A., and Patel, R. (2023):** "The Role of Corporate Governance in Capital Structure Decisions: Evidence from Indian Firms." This study underscores the influence of governance structures on capital decisions, offering a contemporary view of how firms navigate financial strategies in a rapidly changing business landscape.
16. **Rao, K., and Iyer, R. (2024):** "Post-COVID Financial Resilience: An Analysis of Capital Structure Adjustments in Indian Firms." This paper investigates how firms across various sectors, including energy and manufacturing, have adapted their capital structures in response to the economic fallout from the pandemic.

C) OBJECTIVES

- 1) To study the capital structure of NTPC from year 2017-18 to 2023-24
- 2) To find out the earning per share.
- 3) To differentiate between share capital and debt of the company.
- 4) To give a roadmap for advancement of a combination of debt and equity.
- 5) To measure the amount of operating and financial leverage.

D) MATERIALS

Research must be carried out in order to collect data, such that the study design is a plan or strategy that shifts from the underlying conceptual premise to the selection of respondents, methods to be used for data collection and analysis of data. Descriptive research is better for this study. It gives an absolute picture of characteristics of particular situation. Descriptive research is also called observational research method. This particular paper is based on secondary data. Secondary data are data which is typically reused in various contexts. For collecting the data, NTPC various reports annual calendar and internet websites is taken into consideration. Examining and elucidating the data attainable within the financial reports also gives a vital suggestion.

E) EXAMINATION

Examining the capital structure is sporadic evaluation of all the parts of debt and equity. The debt-to-equity proportion decides the risk of companies borrowing practices. Debt is in form of bonds whereas equity comes from retained earnings, common stock or preferred stock.

$$\text{Capital structure} = \text{equity} + \text{debt} + \text{hybrid securities}$$

$$\text{Capital structure} = \text{shareholder fund} + \text{borrowed fund}$$

A) SHARE CAPITAL

Share capital or capital stock is the portion of an asset that is created by shareholders in a company, typically for cash.

FROM-TO	INSTRUMENT	AUTHORIZED (in crores)	ISSUED (in crores)	SHARES	FACE VALUE	CAPITAL (in crores)
2023-24	EQUITY SHARE	10000	9696.67	9696666134	10	9696.67
2022-23	EQUITY SHARE	10000	9696.67	9696666134	10	9696.67
2021-22	EQUITY SHARE	10000	9696.67	9696666134	10	9696.67
2020-21	EQUITY SHARE	10000	9696.67	9894557280	10	9696.67



2019-20	EQUITY SHARE	10000	9894.56	9894557280	10	9894.56
2018-19	EQUITY SHARE	10000	9894.56	8245464400	10	9894.56
2017-18	EQUITY SHARE	10000	8245.46	8245464400	10	8245.46

a) AUTHORIZED CAPITAL

Approved offer capital is the greatest measure of capital the investors are approved to contribute and hold a situation inside the organization. In the sense of the company association agreement under the capital clause, the maximum allowable limit is defined. It is also called nominal or registered share capital.

b) ISSUED CAPITAL

The share capital issued is essentially the monetary value of the stock an entity provides to investors for sale.

c) PAID UP CAPITAL

It is the money earned by a company from shareholders in exchange for stock shares.

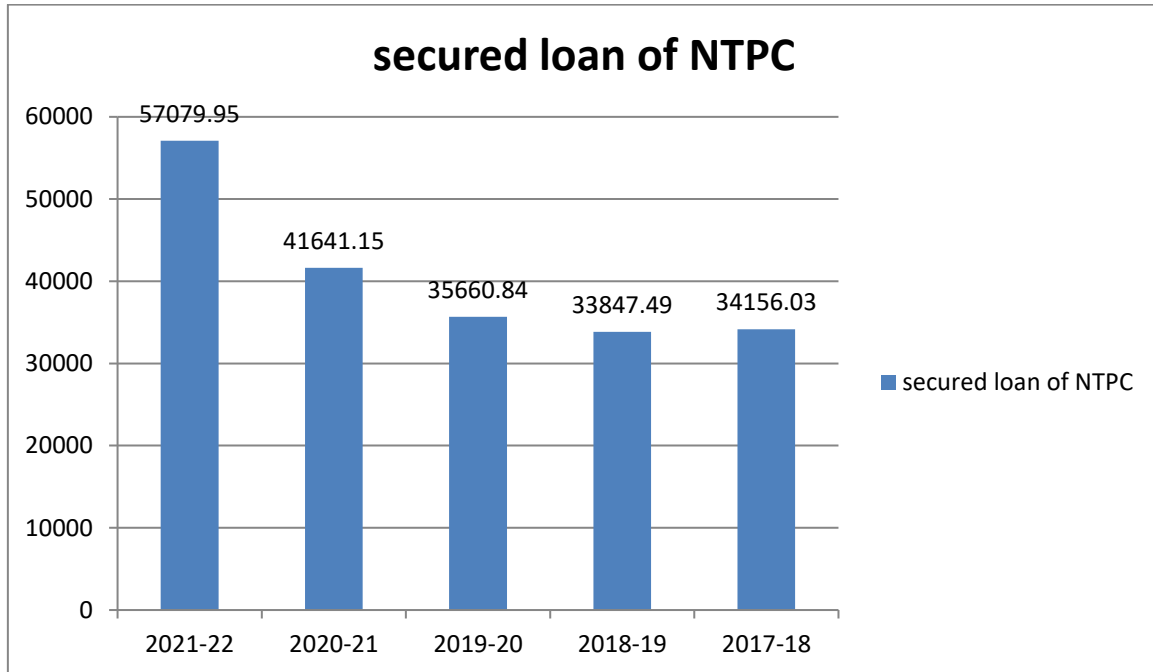
B) TOTAL DEBT

Debt is the amount of money that is owed, and that is typically interest, by an individual, corporation, country etc. Total debt is adding up company’s liability or debt which is categorized as short term and long term debt. NTPC consist debt of two types-

- 1) Secured debt
- 2) unsecured debt

SECURED DEBT

If you take a secured loan you agree to provide the lender with a form of collateral that is equal or exceeds the money you borrow. The collateral prevents the lender from liability if the loan is not reimbursed. Secured loan have lesser risk and also it provides lower interest rates, for auto loan the vehicle purchased is collateral. Secured loan if paid in advance increases the credit worthiness of borrower which helps them to borrow in future.

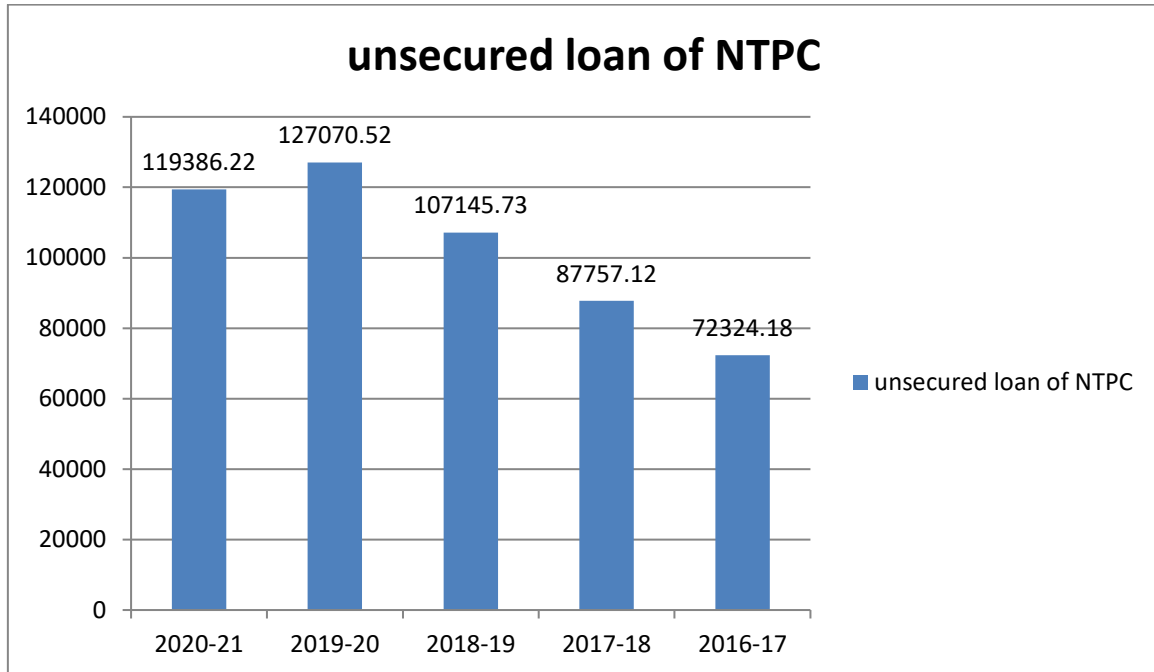


SECURED LOAN ANALYSIS

NTPC secured loan are stated in fig (1). secured loan of NTPC in 2017-18 was (34156.03) high as compared to 2021-22(57079.95). Secured loan when repaid improve the credit rating and gives a positive impact to company. Here the NTPC tried to remove the secured debt because it creates a pessimistic impact on company’s asset. Hence NTPC tries to change the pattern by adopting more secured loan rather than unsecured loan to liberate their asset.

UNSECURED DEBT

Unsecured debt or unsecured loan is the loans which are not backed by any collateral. In these types of loans if the borrower failed to reimburse the loan the lender cannot seize any asset or anything being same amount of default. Due to this advantage of not being anything collateral the unsecured loans charges higher interest rates. This loan is only provided and backed by the loan value of the borrower instead of some kind of protection



UNSECURED LOAN ANALYSIS

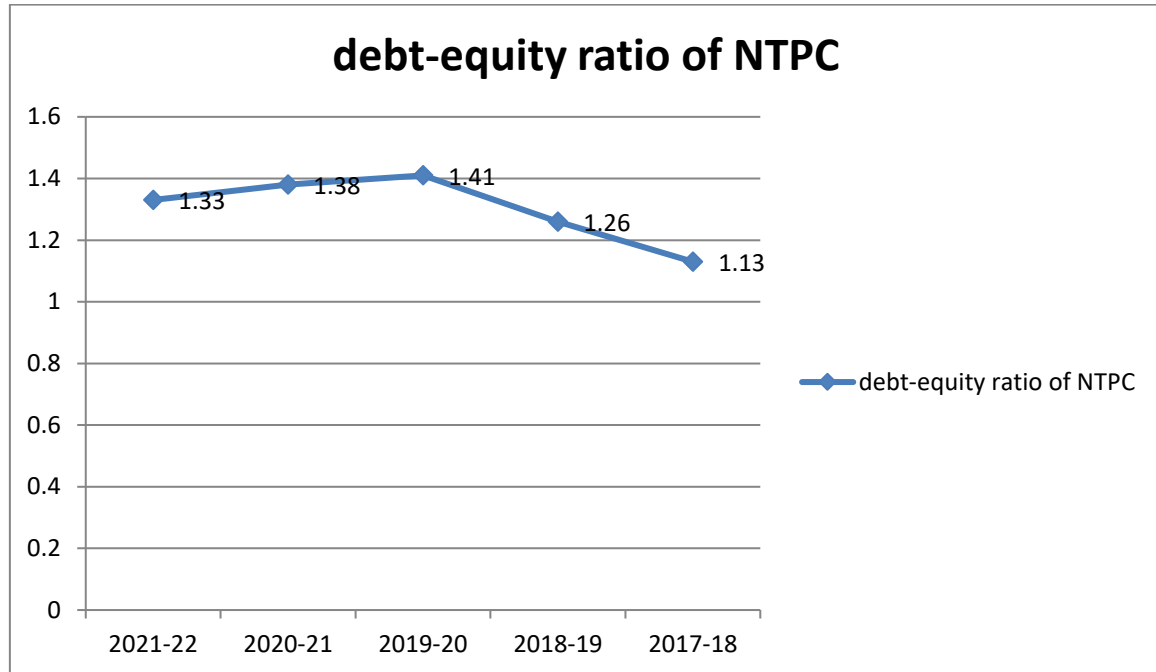
The above figure (2) shows the details of unsecured loans of NTPC. Here we can observe that the unsecured loan of NTPC has increased from 72324.18cr in 2017-18 to 119386.22cr in 2021-22, so here we can conclude that NTPC has moved to unsecured loan from secured loan to reduce the risk on asset, as secured loan create a charge on asset of company which increases risk, also secured loan offers lower interest rate but proved to be risky.

DEBT EQUITY RATIO

The debt-to- equity ratio shows the share of debt funding of the firm. A long-term solvency ratio reveals the value of a company's long-term financial policies. Overall, debt / equity are the measure. What is known as debt however can vary according to the meaning used. The ratio may therefore take many forms-

- A) Total debt/shareholder equity
- B) long term debt/shareholder equity
- C) total liabilities/shareholder equity

Debt to equity ratio differs from company to company. Ideal debt-equity ratio depends upon the nature of business and industry is performing.



DEBT-EQUITY ANALYSIS

Above figure shows the debt-equity ratio of NTPC has shown a significant rise from 2017-18(1.13) to 2021-22(1.33), which means that NTPC is continuously increasing the proportion of debt/borrowed fund rather than equity funding/self fund.

EARNING BEFORE INTEREST AND TAX (EBIT)

EBIT or working pay is the benefit estimation that decides the organization's working benefit and is determined by deducting the expense of merchandise sold and the working costs brought about by the organization from complete income. It shows the measure of benefit that the organization creates from working exercises as it were.

EBIT or operating income is the profitability measurement which determines the company's operating profit and is calculated by deducting the cost of goods sold and the operating expenses incurred by the company from total revenue. It shows the amount of profit that the company generates from operating activities only. EBIT consist of 3 components

- a) cost of goods sold
- b) operating expenses
- c) revenue

Cost of goods sold means direct costs incurred in the manufacture of finished products and selling of services.

Cost of good = opening stock + purchases + direct labour + overhead – closing stock.

Operating expenses are costs incurred by a company during its daily service. It covers revenue, general and administrative costs, such as leases, salaries, travel expenses, etc.

Income is a principal source of revenue in the undertaking generated during the normal course of its operation through the selling of goods and services

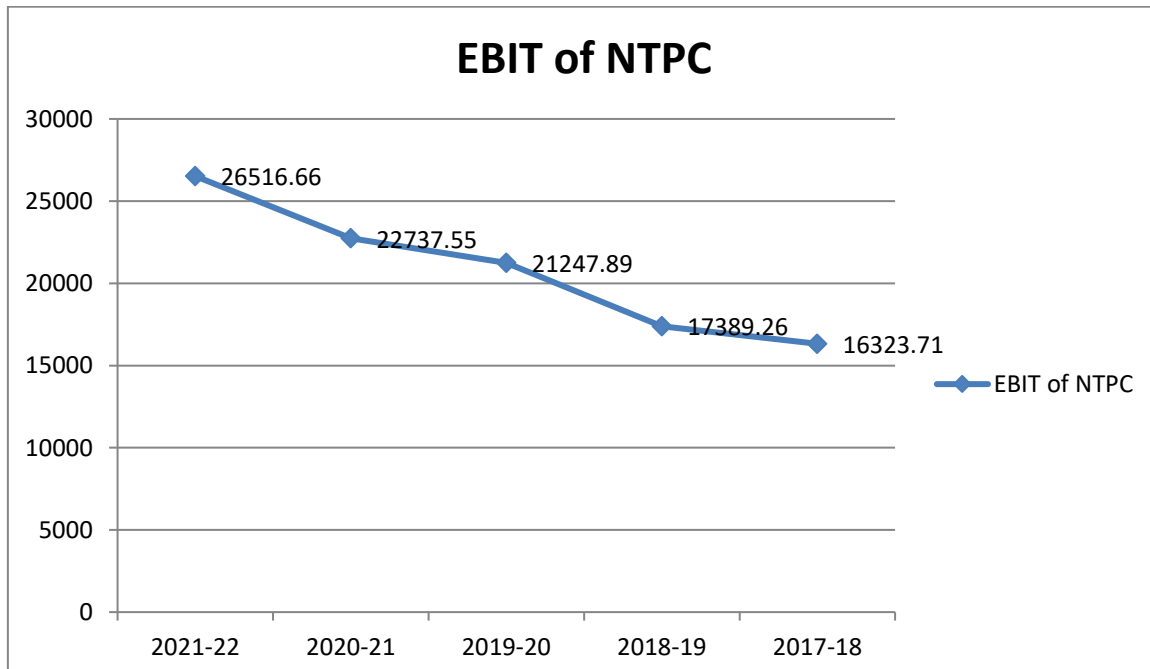
EBIT Formulae in terms of direct and indirect methods -

i) Direct Method

$$\text{EBIT} = \text{Revenue} - \text{Cost of Goods Sold} - \text{Operating Expenses}$$

ii) Indirect Method

$$\text{EBIT} = \text{Net Income} + \text{Interest Expense} + \text{Tax}$$



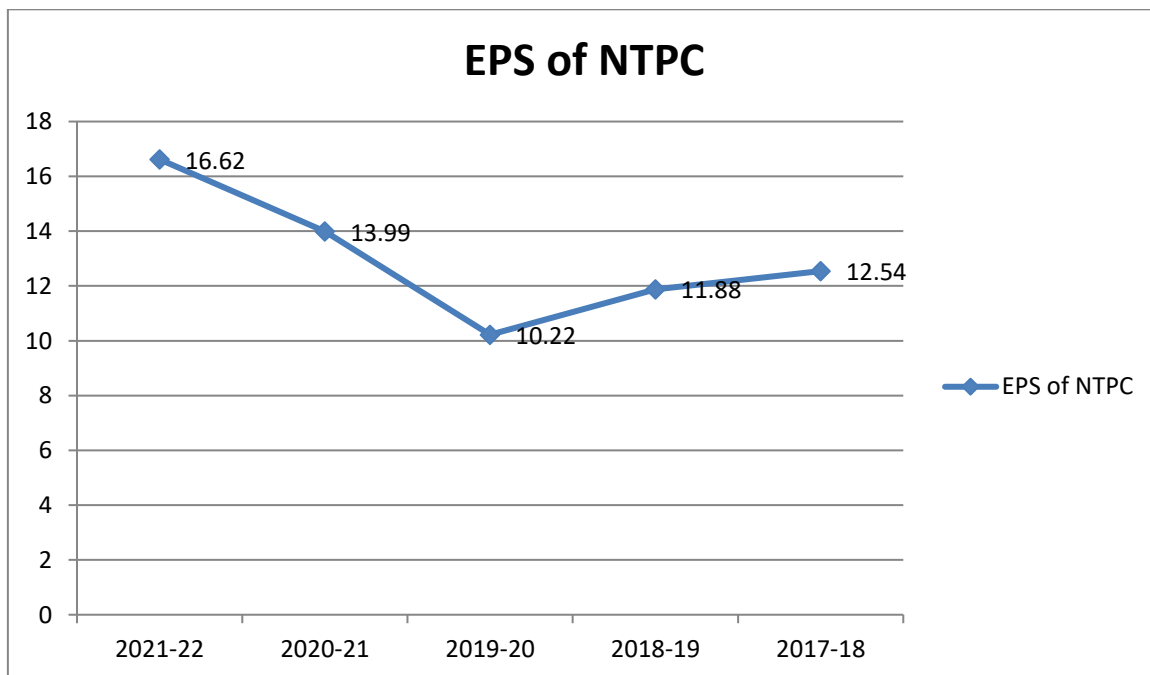
EBIT ANALYSIS

The above figure shows the EBIT of NTPC, from the above data we can conclude that the EBIT of NTPC is continuously increasing over the year, but in 2019-20 the EBIT of 19001.16cr is low as compared to 2018-19 which is 20617.15 in the same way in year 2018-19 the EBIT of 20617.15cr is low as compared to EBIT of 2017-18 which is 23415.29, this reduction in profit is due to purchase of material, expenses in consumption and other expenditure. To overcome this situation NTPC has to increase its profit or reduction in cost or both. Reduction in cost can be achieved by reducing long term borrowed fund and on other hand income can be increased by providing more share capital to shareholder, analysis of internal formation of company to increase productivity cost saving techniques etc.

EARNING PER SHARE

Earnings per share are one of the most significant variables to assess the share price of a business. A high profits per share shows that the business is more lucrative and profitable for shareholder distribution. Earnings per share are also major component in the price earnings ratio calculation for valuing a company share price relative to earnings per share.

Earnings Per Share = $\frac{\text{Net Income} - \text{Preferred Dividend}}{\text{End of Period Common Shares Outstanding}}$



EARNING PER SHARE ANALYSIS



As from the above figure we can conclude that earning per share of NTPC is not increasing or decreasing at a larger phase but in 2019-20 the earning per share of NTPC is 10.22 which is less than the previous year earnings per share of 11.88 in 2018-19, declining of earning per share is not a good sign for company and mainly to its investors. Increases in earnings per share can be achieved by reducing the cost or increase in revenue or both simultaneously.

LEVERAGE

Leverage is another way to refer debt. In the debt of companies, loans are sometimes used to fund inventory, machinery or other property purchases.

At the point when somebody ventures into the debt to get something this is otherwise called utilizing leverage. With obligation financing, the intrigue installment is charge deductible whether or not interest charges are from an advance or credit extension. In addition, a firm can develop a good history of payment and business credit rating by making timely payments. Investors tend to favour the use of leverage to some extent.

The leverage can be separated into three different groups-

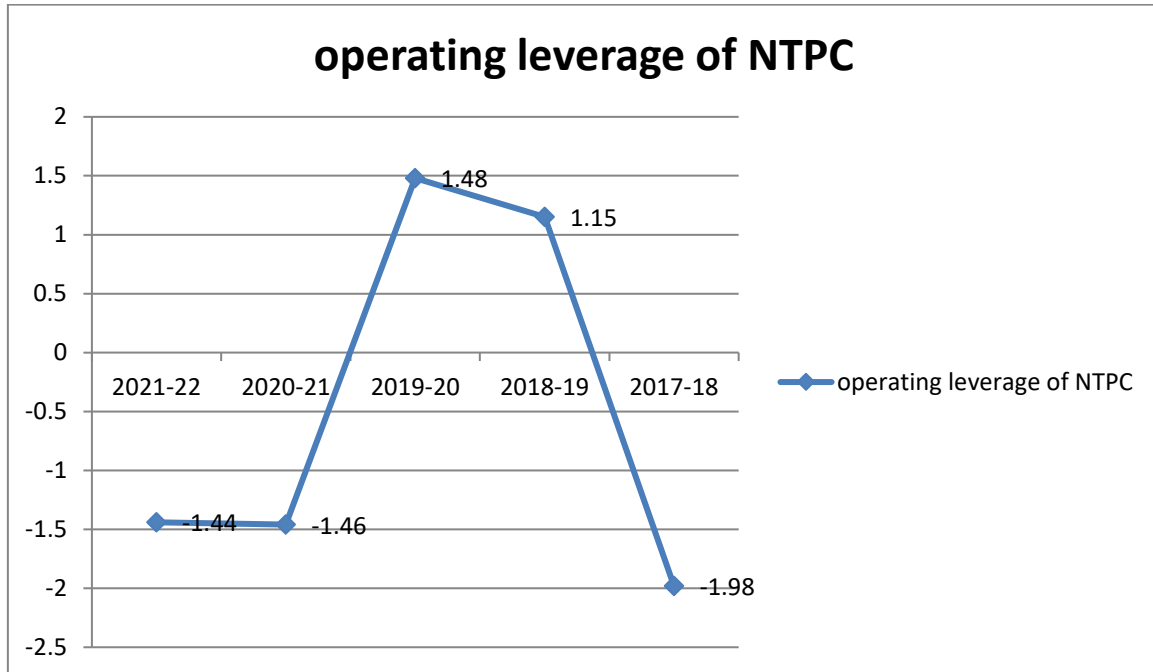
- A) Operating Leverage
- B) Financial Leverage
- C) Combined Leverage

OPERATING LEVERAGE

Operating Leverage applies the idea of leverage to the expense of giving products and enterprises. It comes from the examination technique which distinguishes two kinds of cost in organization structure fixed expense and variable expense. Operating leverage is proportion of fixed expense to variable expense.

In the event that a business firm has more fixed expense when contrasted with variable cost then the firm is said to have high operating leverage. This can likewise be called as capital-intensive firm. Something contrary to capital intensive firm is labor intensive firm. Labor intensive firm has less fixed cost yet require more human capital. A company earns higher profit when large part of business cost is fixed cost and earn lower profit when used variable cost.

$$\text{Degree of Operating Leverage} = \frac{\text{Percentage Change in Earnings Before Interest and Tax}}{\text{Percentage Change in Sales}}$$



OPERATING LEVERAGE ANALYSIS

As per the data given in above figure operating leverage of NTPC is consistently negative. If the formulation leverage amount is greater than the contribution margin, a negative degree of operating leverage exists. The contribution margin is extracted if the costs of variable sales are deducted. This means that the organization is in net loss situation while the debt is negative. A negative operational leverage means that fixed expense is more dramatically impacted by a decline in revenues and a larger percentage of a drop in net operating income has a negatively affected the company's revenue.

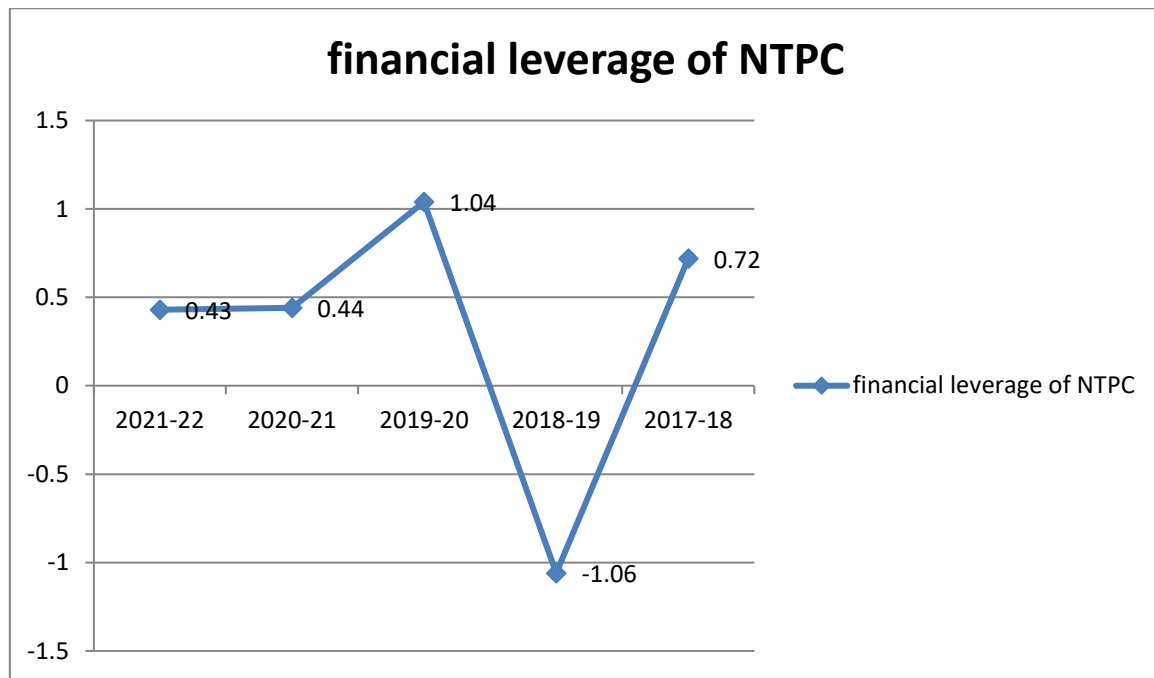
In the year 2021-22, the operating leverage is (-1.44) which is a negative figure as compared to 2020-21 where operating leverage is (-1.46), but a positive trend of operating leverage can be observed in the year 2019-20 which is 1.48 the reason for being operating leverage negative in year 2021-22 and 2020-21 is because of substantial increase in material consumed and purchase of stock. So, to increase the operating leverage the firm should increase sales volume to cover the fixed cost.

FINANCIAL LEVERAGE

The use of debt for the acquisition of more properties is the financial leverage. However, the use of leverage to raise returns on the equity raises the likelihood of default through undue leverage as the repayment of debt becomes harder. There are generally 3 ways in which the company can obtain funds,

debt, equity and leases. Financial leverage is more about borrowing from external sources and needs to be repaid sooner or later.

$$\text{Degree of Financial Leverage} = \frac{\text{Percentage Change in Earning Per Share}}{\text{Percentage Change in Earning Before Interest and Tax}}$$



FINANCIAL LEVERAGE ANALYSIS

Above figure shows that financial leverage in 2020-21 is lesser than the previous year 2019-20, which means that company has reduced the amount of debt in a company, here degree of financial leverage decreases which signifies the lesser use of debt.

COMBINED LEVERAGE

Combined leverage is the leverage which alludes to high benefits because of fixed expense. It incorporates fixed working costs with fixed monetary costs. It shows leverage advantages and dangers which are in a fixed amount. A serious firm uses a significant level of level of joined leverage while a traditionalist firm uses a lower level of degree whenever consolidated leverage. It is given by formula



Combined Leverage = Percentage Change in Earning Per Share / Percentage Change in Sales

FINDINGS

- 1) Financial leverage is low in 2020-21 and 2021-22 as compared to other year which is good for company.
- 2) The degree of operating leverage is negative in 2021-22 and 2020-21 if compared with other year due to increase in expenditure.
- 3) Earnings per share found to be low at just 10.22 when compared with previous year.
- 4) Earnings before interest and tax showed a decline of 2798.14cr than previous year.
- 5) Increased in unsecured loan can be seen in 2018-19 due to reduction of charge on asset.
- 6) Secured loan is showing an upward trend which means the asset is not free from collateral.
- 7) Less amount of share capital is issued to shareholder, which does not satisfy memorandum of association.

SUGGESTION

- 1) The company should try to increase the earning per share by increasing the income or reduction in cost.
- 2) Earnings before interest and tax should be increased to attract the investor.
- 3) Utilization of debt fund should be done more efficiently to maximize shareholder return.
- 4) The company should keep an eye on secured loan to free their asset
- 5) Degree of financial leverage should be minimized otherwise its impact will be seen in future period.