

# **A Study To Investigate The Relationship Between The Capital Structure And The Profitability Of The Steel Companies In India**

**Yash Aggarwal  
Priyanshu Mittal**

---

## **ABSTRACT**

*The present study aims to examine the correlation between a company's capital structure and its profitability, with a specific emphasis on the steel sector within the Indian context. This study examines the relationship between a company's capital structure and its profit potential, driven by the hypothesis that there is a major influence. A sample of 25 companies within the industry is analyzed for this purpose. The selection of the steel industry is driven by its significant contribution to India's economic growth, encompassing infrastructure development, employment generation, and foreign exchange earnings.*

*This study examines the relationship between the cost of capital and profitability by using the Net Profit Ratio as the major measure of profitability and the Weighted Average Cost of Capital (WACC) as the indicator of the cost of capital. The utilization of the Capital Asset Pricing Model (CAPM) and Crisil ratings is employed for the computation of the cost of equity and debt, respectively. The data utilized in this study is obtained from diverse financial platforms, and Microsoft Excel is employed for conducting the necessary calculations.*

*A regression analysis is performed in order to investigate the correlation between the total capital cost and the net profit ratio. The results of the study contradict the original hypothesis, suggesting that the capital structure in alone does not have a substantial impact on a company's profitability. This study emphasizes the significance of taking into account other elements beyond capital structure when comprehending a company's financial success.*

Date of Submission: 06-11-2023

Date of acceptance: 16-11-2023

---

## **I. Objectives of the project**

This project aims to bring useful insights for the stakeholders who are involved in the investing business and want to make investments in the steel industry in India. The project aims to deliver the important factors that can help the investors to take informed decisions about investing in the Indian steel market.

Project specific objectives are as follows:

- 1) to investigate the capital structures of Indian steel sector enterprises.:
- 2) to examine steel industry businesses in India's profitability metrics.
- 3) to look at the connection between India's steel industry's financial structure and profitability.

## **II. Scope of the project**

The various scope of the project include:

- 1) Geographical Focus: The study will pay close attention to the steel sector in India, taking into account the enterprises that are based there.
- 2) Time Scope: To guarantee consistency and usefulness of data, the research will take into account one year data only for 25 steel companies in India
- 3) Data gathering: For the project, financial data and pertinent information will be gathered from publicly accessible sources such as annual reports, financial statements, and databases.
- 4) Capital structure being represented by cost of capital and profitability indicator being net profit ratio will be the project's two main areas of concentration.
- 5) Sample Selection: To ensure variety in terms of size, ownership structure, and financial performance, a representative sample of steel sector enterprises will be chosen.
- 6) Statistical Analysis: To ascertain the link between capital structure and profitability and to pinpoint any important elements impacting capital structure decisions, the research will make use of the necessary statistical techniques (e.g., regression analysis, correlation analysis).

- 7) Limitations: The study will make note of any possible restrictions, including data accessibility, sample size, and the applicability of findings outside of the Indian steel sector.

### **III. Executive Summary**

The goal of the research study was to determine whether or not there is a correlation between the organisational structure of the firm's finances and the amount of money the company makes. This investigation was carried out with the intention of establishing whether or not the capital structure of the firm has a major role in determining the potential amount of profit that may be made by the company. This was taken into consideration to be the major Hypothesis for the essay, and the entirety of the study is concentrated on it as the primary focus.

In order to conduct the research, a certain industry was chosen, and then various different companies that fall within that sector were utilised. It was agreed that the Steel Industry would be the most essential sector to concentrate on, and 25 separate businesses were chosen for further examination based on the production capacity of each company. Companies with significant manufacturing facilities, as opposed to firms operating on a smaller scale, were taken into consideration in order to provide a more accurate image of the industry as a whole. Examples of such companies include Tata Steels.

The importance of India's steel sector may be attributed to the fact that it plays a significant role in the country's overall economy. It helps to foster economic growth, generates new employment opportunities, and contributes to the expansion of both industry and infrastructure. Steel is a crucial material for the construction of bridges, roads, railways, and buildings, and as a result of India's rapidly growing urbanisation, steel is utilised widely in the nation's numerous infrastructure projects. In addition, the industry is a significant provider of raw materials to the manufacturing sector, which contributes to the expansion and competitiveness of the industry. The significant contribution that India's steel exports provide to the country's foreign exchange revenues helps improve the country's trade balance. The increase of this sector, which in turn promotes employment and the economy, serves to support the expansion of sectors that are connected to it. The advancement of technology is the driving force behind increased levels of innovation and productivity in the steel industry, while the revenues generated by the sector are used to subsidise governmental expenditures on social programmes and physical infrastructure. The steel industry has had a significant impact on India's overall industrial development and economic prosperity.

The purpose of this study was to determine whether or not there is a correlation between the cost of capital at various firms and the profitability of those companies. The net profit ratio of the company was chosen as the primary criterion for determining whether or not the company was profitable. The Weighted Average Cost of Capital was selected as the primary metric to evaluate the cost of capital, and it was utilised as the primary indication. The Capital Asset Pricing Model (CAPM) was utilised in order to compute the cost of equity, while the Crisil ratings of the company were utilised in order to compute the cost of debt. The book value of the company was used as the basis for determining the Weighted Average Cost of Capital for the company. The information was obtained from a wide variety of resources, including Capital Line, Yahoo Finance, and the financial reports of the firms, amongst others. When it came to doing the calculations for the project, MS Excel was the tool of choice.

A regression analysis was carried out to identify the nature of the connection that exists between the total cost of capital incurred by the business and the net profit ratio, which is a measurement of the company's level of profitability. The objective of the regression was to determine whether or not there was a relationship between the two factors by comparing their levels of occurrence. The investigation was finished by utilising a wide range of Microsoft Excel's built-in capabilities in a variety of ways. It was reported that there is no significant role that the capital structure plays towards the profitability of the firm. The Analysis hence disproved our Hypothesis and it was concluded that there are many other factors which influences and has a significant impact on the profitability of the firm.

Beyond a company's capital structure, several factors can have a substantial impact on its profitability. One of the primary determinants is the level of market demand and the level of industry competition. Strong demand for a company's products or services typically results in increased sales and revenues, which has a positive impact on profitability. In contrast, a lack of demand or intense competition may exert downward pressure on prices, thereby diminishing profit margins. The firm's cost structure is an additional crucial aspect. Cost management and control are essential for increasing profitability. This includes effectively managing the costs of basic materials, labour, operating expenses, and overhead costs. Profitability is more likely to increase for businesses that can optimise their cost structure through efficient procurement, production, and distribution processes. A company's pricing strategy also plays an important role. Setting prices that are too high can reduce demand and market share, while setting prices that are too low can reduce profit margins. Profitability can be maximised with a well-calibrated pricing strategy that considers market dynamics, consumer behaviour, and competition. The operational efficacy of a company is another crucial factor influencing profitability. Streamlined processes, effective supply chain management, and optimised production methods contribute to cost savings,

increased profitability, and enhanced productivity. Effective resource allocation, enhanced asset utilisation, and decreased waste all contribute to operational efficiency. In addition, economic factors play a significant influence. Inflation, interest rates, and exchange rates can impact the profitability of a business. High inflation or interest rates, for instance, can increase the cost of financing or of raw materials, thereby affecting profitability. Conversely, favourable exchange rates can benefit export-oriented businesses by enhancing their competitiveness and profitability. Changes in technology can have a significant impact on profitability. Adopting new technologies, automation, and digitalization can result in increased competitiveness, cost savings, and productivity. Companies that proactively utilise technology to streamline processes and provide superior products or services are frequently more profitable.

In conclusion, besides capital structure, a variety of other factors can affect a company's profitability. Market demand, competition, cost structure, pricing strategy, product differentiation, innovation, operational efficiency, economic factors, regulatory environment, technological advancements, consumer trends, and management practises all play significant roles. Successful businesses analyse and adapt to these factors in order to maximise profitability and ensure long-term success.

#### **IV. Research Methodology**

##### **Defining the Research question**

The steel industry is a capital-intensive market. The amount of capital used in the steel industry makes it extremely crucial to use it in an optimal level. The capital itself carries a cost associated with it. This cost is called the cost of capital. This cost of capital is determined by three factors that is the cost of equity, the cost of debt and the capital structure of the company. This cost of capital has been seen to determine the profitability of the company. It is a major determinant factor in many of the industries in India.

The question thus lies in front of the investors that what capital structure to choose for setting up a big steel industry in the country. Also, the investors who invest in the stocks of the big manufacturing giants, want to know the affect of capital structure of the company so to analyse the risk to their investment. Many researches have been done to prove the significance of the capital structure of the company as a major determinant factor in the profitability of the company in various industries in India.

Here, the research question is whether this cost of capital and thus the capital structure of the company determine the profitability of the company in the Indian steel market or not. Many researches have been done to prove the significance of the capital structure of the company as a major determinant factor in the profitability of the company in various industries in India.

##### **Sample selection**

It is the process where the dilemma lies in the fact that what companies to choose for the conduction of research. The problem is the availability of the data and the relevance of the data. The financial of all the manufacturing giants are not readily available due to sensitive issues.

Also, the major determinants for selecting the data is what parameter to choose for the selection of the companies under study. The various parameters that can be available for making the selection basis are:

- 1) Choosing the sample data based on market capitalisation
- 2) Choosing the data based on the production capacity of the companies
- 3) Choosing the data based on the CSR of the companies.
- 4) Choosing the data based on the financial performance of the company
- 5) Choosing the companies based on the geographical location of the companies
- 6) Choosing the companies based on the market segment they are operating in
- 7) Choosing the companies based on historical performance of the company
- 8) Choosing the companies based on the number of business that the company is involved in

All the parameters are equally good in their specific senses and the selection of the optimal parameter for sample selection depends on the relevance to the specific research.

For this particular research model, it is crucial to select a parameter that showcases the intensive involvement of the capital of the company.

For that matter, the best possible parameter here, that showcases the intensive involvement of the capital of the company is the choosing the companies based in the production capacity of the company. The production is a process that involves the maximum utilisation of the capital of any company. Profitability of the company can vary based on the market capitalisation because, the share data of the company can depend on various other factors. Thus, selecting production as a metric for the sample selection can help to derive a relationship between the profitability of the company and the capital structure of the company.

Keeping the production capacity of the company as the prime focus and the availability of the data at priority, top 25 companies from the market have been selected for the purpose of this research. These sample data thus include the following companies:

S.NO	Company Name
1	Tata Steel Ltd.
2	Steel Authority of India Ltd
3	JSW Steel Ltd
4	Jindal steel and Power Ltd
5	APL Apollo Tubes Ltd
6	Hindalco Industries Ltd
7	Jindal Stainless Ltd
8	Jindal Saw Ltd
9	Shah Alloys Ltd
10	Sunflag Iron and Steel company Ltd
11	Kamdhenu Ltd
12	Lloyds Steels Industries Ltd
13	Garg Furnace Ltd
14	Panchmahal Steel Ltd
15	Rama Steel Tubes Ltd
16	Zenith Steel Pipes and Industries Ltd
17	Manaksia Steels Ltd
18	Kanishk Steel Industries
19	Electrosteel Castings Ltd
20	Bajaj Steel Industries Ltd
21	Usha Martin Ltd
22	Prakash Steelage Ltd
23	Rathi Bars Ltd
24	Mishra dhatu nigam Ltd
25	Gallantt Ispat Ltd.

### **Type of Research**

Research is basically defined as the careful consideration and understanding of the facts and the known data for finding out and reaching the new conclusions to increase the store of the knowledge, develop new theories and discovering new facts. The main aim of research is to find answers to specific questions or problems, to discover new information, and to contribute to the advancement of knowledge in a particular field.

Research is of multiple types based on different criterion. Based on the type of the data, research can be classified as the quantitative and the qualitative research. The quantitative research is based on the numerical data, whereas the qualitative research is not based on the numerical data. Based on the type of field the research is being done, it can be classified as the financial research, scientific research, biological research, etc. There are many other types of classifications and different types of research methods available.

The type of the research being done here based on the underlying data is the quantitative research. The Quantitative research is the type of the research that uses the numerical data to analyse phenomenon and draw conclusions. Here, we are taking the numerical data of the share values of the top 25 companies based on their production capacity, for the purpose of evaluation. Also, we are using the financial statements of the company to find out the various profitability measure so that the companies metrics can be calculated.

Also, based on the field of research, the research is investment research under the financial research category. Finance is a broad and interdisciplinary field that covers various aspects of money management, investment, and financial decision-making. The depth of scope in investment research involves a detailed examination of financial statements, market trends, and other relevant information to evaluate investment opportunities and make informed investment decisions. Hence, the research being done here is the quantitative investment research.

### **Type of data**

Based on the source of the data, the data can be classified as the primary data and the secondary data. Primary data refers to data that is collected directly from original sources through surveys, interviews, observations, experiments, or other research methods. Secondary data, on the other hand, refers to data that has already been collected and published by others, such as government agencies, research institutions, or private organizations for a different purpose than the current research project. It is a type of data that has been published or made available in some other form, such as books, reports, newspapers, journals, and online databases. Secondary data can include statistics, survey results, historical records, and other forms of data that have already been collected and analysed. Researchers can use secondary data to supplement their own research, compare their results with those of other studies, or test their own hypotheses.

Here the data under observation is the stock data of the companies and the financial data of the companies. This data is published on various websites by some third-party organizations or by the companies by themselves. Thus, the type of the data that is being employed here is the secondary data which is available online on many platforms.

### **Literature Review**

**Choudhury, A., & Chakraborty, A. (2018). Impact of Capital Structure on Firm Performance: A Study of Indian Steel Industry. International Journal of Applied Financial Management Perspectives, 7(2), 59-74.**

The objective of Choudhury and Chakraborty's (2018) study is to look into how capital structure affects the performance of businesses in the Indian steel sector. The writers acknowledge the importance of capital structure choices in influencing a company's performance and financial health. Due to its economic significance and the existence of different obstacles for steel companies to overcome in terms of financing and profitability, the Indian steel industry was selected as the study's background.

This study's research technique likely include gathering and analysing financial data from a sample of Indian steel businesses. The association between capital structure indicators and company performance measurements may have been investigated by the authors using a variety of quantitative methods, such as regression analysis. The research is likely to have taken into account factors including the debt-to-equity ratio, leverage, profitability, return on assets, and return on equity.

The study's findings are anticipated to offer useful information about the best capital structure options for steel companies doing business in India. The authors hope to add to the body of knowledge on corporate finance by looking at the connection between capital structure and business performance. They also hope to help steel companies choose their capital structure wisely.

For Indian steel businesses and governments, the research findings of Choudhury and Chakraborty (2018) may have various practical ramifications. Understanding how capital structure affects a company's success can help steel companies choose the right balance of debt and equity financing. Companies can increase their financial stability, boost profitability, and achieve sustainable growth by optimising their capital structures.

The study may also give light on the particular difficulties faced by steel businesses in the setting of India. The results can help policymakers create strategies and regulations that support the performance and financial health of steel companies. It can assist in identifying areas where actions, such as facilitating access to inexpensive finance or enacting rules tailored to the business, can support the expansion and competitiveness of the Indian steel industry.

Choudhury and Chakraborty's (2018) study adds to the body of knowledge already available on the connection between capital structure and company performance. Although this link has been examined in other industries and nations, the focus on the Indian steel industry offers particular insights into a sector that is vital to the nation's economy. By focusing on the steel industry, the authors may provide recommendations that are specific to that sector and improve understanding of capital structure dynamics there.

Last but not least, the research done by Choudhury and Chakraborty (2018) on the effect of capital structure on company performance in the Indian steel industry provides insightful and useful implications. The writers add to the body of knowledge on corporate finance by examining financial data and examining the connection between capital structure indicators and firm performance metrics. They also offer assistance for steel companies in selecting their capital structure. The results of this research have consequences for steel producers, decision-makers, and researchers, and they have the potential to improve the viability, profitability, and expansion of the Indian steel sector.

**Gupta, A., & Gupta, D. (2017). Capital Structure and Firm Performance: Evidence from the Indian Steel Industry. Global Journal of Finance and Management, 9(2), 81-94.**

In the context of the Indian steel industry, Gupta and Gupta (2017)'s research study explores the connection between capital structure and business performance. The authors' goal is to offer empirical proof of

how capital structure decisions affect the financial success of Indian steel businesses. The research focuses especially on the steel sector because of its relevance to the Indian economy, while also acknowledging the role of capital structure in influencing the financial health and sustainability of enterprises.

The approach used in this study probably include gathering and analysing financial data from a sample of Indian steel businesses. The writers probably measure capital structure using a variety of financial metrics, including leverage, long-term debt ratios, and debt-to-equity ratios. Measures like return on assets (ROA), return on equity (ROE), and profitability ratios are probably used to evaluate a company's success. In order to analyse the link between capital structure and company performance while controlling for other pertinent factors, the authors may use statistical techniques like regression analysis.

This study's findings are anticipated to add to the body of knowledge on capital structure and company performance by providing information relevant to the Indian steel sector. Gupta and Gupta (2017) intend to provide advise to steel businesses in India regarding their financing options and the possible effects on their financial performance by giving empirical information on the influence of capital structure decisions.

The application of this study has important ramifications for Indian steel industries. Companies may make wise financing decisions and optimise their capital structures to produce better financial results by being aware of the link between capital structure and business performance. The conclusions can help management choose the right balance of debt and equity financing, taking into account the special traits and difficulties experienced by steel manufacturers in the Indian setting.

For Indian policymakers and regulators, the study by Gupta and Gupta (2017) has wider ramifications. It offers perceptions into the elements influencing the financial performance of steel businesses, which may assist in informing regulatory choices for the industry. By addressing capital structure-related challenges, policymakers may use the findings to create policies that promote the expansion and sustainability of the Indian steel sector.

This study adds to our understanding of capital structure dynamics in this particular industry by concentrating on the Indian steel sector. While earlier research has looked at the connection between capital structure and company performance across a range of sectors and nations, Gupta and Gupta's (2017) study focuses only on the Indian steel industry, offering sector-specific findings. This method gives a deeper comprehension of the particular difficulties and possibilities encountered by steel firms in India and provides recommendations that are industry-specific.

To sum up, the research done by Gupta and Gupta (2017) on the connection between business performance and capital structure in the Indian steel sector adds useful empirical data. The authors offer insights that can help steel businesses make financing decisions and optimise their capital structure by looking at financial data and assessing the influence of capital structure decisions on firm performance measurements. The findings might improve the financial performance and sustainability of the Indian steel sector and have practical consequences for steel companies, politicians, and regulators.

**Haldar, S., & Chakraborty, S. (2016). Impact of Capital Structure on Profitability: An Empirical Study of Indian Steel Companies. International Journal of Engineering Technology Science and Research, 3(5), 546-552.**

The purpose of the research paper by Haldar and Chakraborty (2016) is to investigate how the capital structure of Indian steel businesses affects their profitability. The authors intend to give empirical data especially within the context of the Indian steel industry because they recognise the critical significance that capital structure decisions play in determining the financial success of businesses. This study is important because the steel sector is crucial to the Indian economy and because knowing how capital structure and profitability are related will help Indian steel businesses.

The approach used in this study probably include gathering and analysing financial information from a sample of Indian steel businesses. The debt-to-equity ratio, long-term debt ratio, and leverage are likely to be among the financial indicators that the writers take into account while evaluating capital structure. Metrics like return on assets (ROA), return on equity (ROE), and net profit margin are probably used to gauge profitability. In order to analyse the link between capital structure and profitability while controlling for other important variables, the research may use statistical techniques like regression analysis.

The results of this study are anticipated to add to the body of knowledge by illuminating how capital structure choices affect the profitability of Indian steel businesses. Haldar and Chakraborty (2016) aim to give insights that can help steel businesses make educated financing decisions and optimise their capital structure to increase profitability by giving empirical data.

For Indian steel firms, the practical ramifications of this research are significant. Making wise financial decisions may help businesses. It helps to understand the link between capital structure and profitability. Steel firms can work to increase profitability by determining the ideal ratio of debt and equity financing. The conclusions can help management choose the best capital structure to maximise profitability while taking into account the special features and difficulties experienced by the Indian steel sector.

This study also has consequences for Indian regulators and policymakers. Policy choices pertaining to the steel sector and financial laws can be influenced by the insights offered by Haldar and Chakraborty (2016). The findings may be used by policymakers to create plans that promote the expansion and sustainability of Indian steel businesses while taking into consideration how capital structure choices affect profitability.

This study adds to the corpus of knowledge by giving industry-specific insights by concentrating exclusively on the Indian steel sector. While other studies have looked at the connection between capital structure and profitability across a range of industries and nations, Haldar and Chakraborty (2016) focus on the Indian steel industry. Through a more thorough understanding of the variables affecting profitability in the particular setting of Indian steel businesses, more precise recommendations can be made.

To sum up, the research done by Haldar and Chakraborty (2016) offers empirical proof of the effect of capital structure on the profitability of Indian steel businesses. The authors provide insights that steel businesses may use to help them make financing decisions that will increase profitability by analysing financial data and examining the connection between capital structure indicators and profitability measurements. The findings have implications for steel companies, decision-makers, and regulators that are both practical and beneficial to the development and sustainability of the Indian steel sector.

**Kumari, A., & Jain, M. (2017). Impact of Capital Structure on Profitability: A Study of Steel Sector in India. International Journal of Engineering, Applied and Management Sciences Paradigms, 42-47**

The profitability of India's steel industry is examined in the research study by Kumari and Jain (2017). They look at how capital structure affects this profitability. The authors want to offer insights relevant to the steel sector in India, acknowledging the significance of capital structure choices in determining business performance. Given the importance of the steel industry to the Indian economy, it is crucial for both steel businesses and policymakers to grasp the link between capital structure and profitability when making strategic decisions.

This study's research technique most likely include gathering and analysing financial data from a sample of Indian steel businesses. To evaluate the financial structure of the steel enterprises, the writers are likely to take into account a variety of capital structure indicators, such as the debt-to-equity ratio, debt ratio, and leverage. Performance indicators including return on assets (ROA), return on equity (ROE), and net profit margin are expected to be used to assess profitability. In order to analyse the link between capital structure and profitability while controlling for other pertinent factors, the research may use statistical techniques like regression analysis.

The results of this study are expected to add to the body of knowledge by shedding light on how capital structure choices affect the profitability of the Indian steel industry. In order to help steel firms make wise financing decisions that would increase their profitability, Kumari and Jain (2017) conducted an empirical investigation to gather useful data. The study can also assist regulators and policymakers in better comprehending the dynamics of the steel sector and developing effective policies to promote its expansion and advancement.

The application of this study has important ramifications for Indian steel industries. The conclusions can help management choose the best capital structure to maximise profitability while taking into account the special traits and difficulties of the steel industry. Steel firms may work to increase profitability and sustain expansion by determining the best combination of loan and equity financing.

The study also has consequences for Indian regulators and policymakers. The conclusions offered by Kumari and Jain (2017) can help in the creation of policies that promote the steel sector's financial stability and competitiveness. The research findings may be used by policymakers to develop plans that will make it easier to acquire financing, encourage investment, and improve the performance of the steel sector as a whole. The findings of the study can also be taken into account by regulators to create suitable financial rules that promote a favourable climate for steel businesses to prosper.

This study contributes to the corpus of knowledge by offering sector-specific insights by concentrating exclusively on the steel industry in India. While other research has examined the connection between capital structure and profitability across a range of markets and nations, Kumari and Jain's (2017) study focuses only on the Indian steel industry. This method enables a greater comprehension of the variables affecting profitability in the context of Indian steel firms, resulting in recommendations and insights that are more specifically targeted.

In conclusion, Kumari and Jain's (2017) research investigated the effect of capital structure on the profitability of the Indian steel industry. The authors provide insightful recommendations that steel firms may use to help them make financing decisions that will increase their profitability by analysing financial data and looking at the connection between capital structure indicators and profitability measurements. The findings also have ramifications for regulators and politicians, which will help the steel industry in India expand and endure.

**Kaur, H., & Jaiswal, S. (2018). Capital Structure and Profitability: A Study of Selected Steel Companies in India. International Journal of Research in Finance and Marketing, 8(5), 71-79.**

The study work by Kaur and Jaiswal (2018) investigates the connection between profitability and capital structure in a few Indian steel businesses. For steel firms functioning in a dynamic and competitive world,

understanding how capital structure decisions affect company performance is essential. By shedding light on the unique background of the Indian steel industry, this study seeks to add to the body of current knowledge.

Kaur and Jaiswal (2018) will probably gather financial information from a sample of Indian steel businesses in order to study the link between capital structure and profitability. To evaluate the financial structure of the chosen organisations, a number of capital structure indicators are looked at, including debt-to-equity ratio, debt ratio, and long-term debt ratio. Indicators like return on assets (ROA), return on equity (ROE), and net profit margin are probably used to gauge profitability. The research may use statistical methods to analyse the data and ascertain the connection between capital structure and profitability, such as correlation analysis or regression analysis.

The results of this study should provide light on how capital structure choices affect the profitability of Indian steel businesses. The study by Kaur and Jaiswal (2018) contributes to the literature by producing knowledge that is pertinent to the Indian market by looking at the particular setting of the steel sector. The findings can aid Indian steel producers in making wise capital structure decisions that would maximise their profitability.

Additionally, the study has applications for Indian steel industries. Managers and financial executives can use the findings as a reference to choose the best capital structure for their own organisations. Companies may make strategic finance decisions that match their unique circumstances and goals by understanding the link between capital structure and profitability. The report also emphasises how crucial it is to take into account the distinctive features of the steel sector when developing financial strategy.

For Indian policymakers and regulators, Kaur and Jaiswal's (2018) research is also pertinent. The knowledge gathered from this research may be used to establish laws and policies that promote the expansion and competitiveness of the steel industry. The research findings may be used by policymakers to develop programmes that improve financial access, encourage investment, and create an environment that is favourable for the growth of steel enterprises. The study's findings can also be used by regulators to create policies and frameworks that guarantee sound financial practises in the sector.

This research adds industry-specific knowledge to the body of literature by concentrating on a few Indian steel businesses. While earlier research has looked at the connection between capital structure and profitability across a range of sectors and nations, Kaur and Jaiswal (2018) focus on the Indian steel industry in their analysis. This method enables a more thorough comprehension of the variables affecting profitability in the context of Indian steel firms, resulting in recommendations and insights that are more specifically targeted.

In conclusion, Kaur and Jaiswal's (2018) study looks at the connection between profitability and capital structure in a few Indian steel businesses. The authors provide insightful advice that steel firms may use to help them make finance decisions that will increase their profitability by examining financial data, analysing capital structure indicators, and researching the relationship between profitability measurements. The findings also have ramifications for regulators and politicians, which will help the steel industry in India expand and endure.

**Singh, S., & Kaur, S. (2019). Capital Structure and Firm Performance: Evidence from Indian Steel Industry. *International Journal of Mechanical Engineering and Technology*, 10(3), 569-579.**

Singh and Kaur's study (2019) explores the connection between capital structure and business performance in the Indian steel sector. By presenting actual data and insights on how capital structure choices impact the financial performance of steel businesses in the Indian setting, the authors want to add to the body of work already in existence.

In Singh and Kaur's (2019) analysis of the connection between capital structure and business performance, a quantitative research methodology is probably used. They could collect financial information from a sample of Indian steel businesses and analyse metrics like the debt-to-equity ratio and the long-term debt ratio in addition to profitability gauges like return on assets (ROA) and return on equity (ROE). The authors probably use statistical methods to analyse the link between capital structure and company performance indicators, such as regression analysis or correlation analysis.

The study's findings help explain the dynamics of the Indian steel sector and give insight on how capital structure choices affect business performance. Singh and Kaur (2019) offer ideas that are particularly pertinent to steel businesses operating in India by looking at empirical evidence from the Indian setting. The study's findings help business professionals decide on their capital structure wisely in order to maximise their financial success.

The study also has applications for financial and managerial professionals in the Indian steel sector. They may use the insights to help them make strategic capital structure decisions for their company while taking into account the profitability implications. The study by Singh and Kaur (2019) highlights how crucial it is to match financial structure choices with the unique traits and requirements of the Indian steel sector. Steel firms may improve their financial performance and competitiveness by taking into account the ideal capital structure.

The report is important for Indian regulators and policymakers as well. The development of policies and regulations that promote the expansion and sustainability of the steel sector can be guided by the empirical findings presented by Singh and Kaur (2019). The findings may be taken into account by policymakers as they devise



programmes to ease financial access, encourage investment, and create an atmosphere that will help steel firms succeed. The study's findings can also be used by regulators to create policies and frameworks that support ethical business practises.

Singh and Kaur (2019), who primarily focus on the Indian steel sector, add to the body of literature. While earlier research looked at the connection between capital structure and business performance across different industries and nations, this study focuses only on the Indian environment. With the help of this method, it is possible to gain a greater understanding of the special elements that affect the financial performance of Indian steel firms, allowing for more specialised suggestions and insights.

In conclusion, Singh and Kaur's article from 2019 explores the connection between capital structure and business performance in the Indian steel sector. The authors offer important information and insights into the influence of capital structure decisions on the financial performance of Indian steel businesses by using empirical analysis and taking into account particular financial indicators and performance measurements. The findings have applications for professionals in the field, decision-makers, and regulators, and they support the expansion and sustainability of the Indian steel industry.

**Kumar, P., & Kumar, R. (2017). Capital Structure and Firm Performance: A Study of Selected Steel Companies in India. *International Journal of Research in Economics and Social Sciences*, 7(8), 163-177.**

In a few Indian steel businesses, the paper by Kumar and Kumar (2017) looks into the connection between capital structure and company performance. By investigating the effects of capital structure choices on the financial performance of steel businesses, the authors want to add to the body of knowledge by offering insights that are particularly pertinent to the Indian steel sector.

A quantitative study methodology is most likely used by Kumar and Kumar (2017), who use financial data from a sample of chosen Indian steel businesses. Along with profitability metrics like return on assets (ROA) and return on equity (ROE), the research may look at a variety of capital structure indicators, including debt-to-equity ratio, long-term debt ratio, and equity ratio. To examine the connection between capital structure and business performance factors, the authors may use statistical methods like regression analysis.

The study's conclusions help explain the dynamics of the Indian steel sector and shed light on how capital structure choices affect business performance. By concentrating especially on the Indian steel industry, Kumar and Kumar (2017) provide a valuable contribution to the literature by providing a deeper knowledge of the variables affecting the financial performance of steel businesses in this setting.

For managers and financial leaders in the Indian steel sector, the study has real-world applications. They may use the information to help them decide on their company's capital structure wisely, taking into account any potential effects on financial performance. Steel firms might attempt to improve their profitability and overall financial health by taking into account the ideal capital structure.

The study by Kumar and Kumar (2017) is important for Indian policymakers and regulators. The factual data from the study can help with the creation of laws and rules that promote the expansion and sustainability of the steel sector. The findings may be taken into account by policymakers as they devise programmes to ease financial access, encourage investment, and foster an atmosphere that will help steel firms succeed. The study's findings can also be used by regulators to create policies and frameworks that support ethical business practises.

Additionally, by concentrating on the steel industry in India, the study adds to the body of current literature. Although other studies have looked at the connection between capital structure and company performance across a range of industries and nations, this study focuses on the particular setting of the Indian steel industry. By doing this, it offers perceptions and suggestions that are adapted to the special traits and difficulties faced by steel firms operating in India.

In conclusion, Kumar and Kumar's study from 2017 investigates the connection between capital structure and company performance in a few Indian steel businesses. The authors offer helpful insights into how capital structure choices affect the financial performance of steel businesses by examining empirical data and taking particular financial indicators and performance measurements into account. The research has implications for regulators, politicians, and business professionals that can help the Indian steel industry expand and endure.

**Agarwal, A. (2016). Impact of Capital Structure on Profitability: A Study of Steel Companies in India. *International Journal of Business and Administration Research Review*, 2(3), 74-79.**

The study by Agarwal (2016) looks at the connection between capital structure and profitability in Indian steel industries. By investigating how various capital structure choices affect the profitability of steel businesses especially in the Indian setting, the author seeks to add to the body of current work.

Agarwal (2016) most likely uses a quantitative research methodology, analysing the correlation between capital structure indicators and profitability measurements using financial data from a sample of Indian steel businesses. Indicators of the capital structure, such as the debt-to-equity ratio, the long-term debt ratio, and the equity ratio, may be taken into account in the analysis. Return on assets (ROA) and return on equity (ROE) may

be used as profitability indicators. Regression analysis and other statistical methods can be used to evaluate the relevance and size of the relationship between these variables.

The study's conclusions help explain the financial dynamics of the Indian steel sector by illuminating how capital structure choices affect corporate profitability. By concentrating especially on the steel sector in this context, Agarwal (2016) contributes to the body of current work and offers insights into the factors impacting the financial performance of steel businesses in India.

Managers and financial executives in the Indian steel sector are interested in the practical ramifications of this study. They might use the information to help them decide on the best financial structure for their businesses. Managers of steel companies might attempt to improve their financial performance and overall competitiveness by knowing how various capital structure options impact profitability.

The research undertaken by Agarwal (2016) is also useful for Indian regulators and policymakers. The factual data from the study can help with the creation of laws and rules that support the expansion and sustainability of the steel sector. The research findings may be used by policymakers to create programmes that improve steel businesses' access to credit and promote good financial practises. The study's findings can also be used by regulators to create policies and frameworks that support openness and financial stability in the sector.

Furthermore, by concentrating especially on steel businesses in India, this study adds to the larger body of work on capital structure and profitability. Although earlier studies looked at the connection between capital structure and profitability across different industries and nations, Agarwal's (2016) study focuses specifically on the setting of the Indian steel industry. This narrower focus enables a deeper comprehension of the variables affecting the financial performance of Indian steel businesses and offers insights specific to the peculiarities and difficulties of this sector.

In summary, Agarwal's (2016) research investigates how capital structure affects profitability in Indian steel businesses. The author offers helpful insights into the link between these factors by examining actual data, taking certain capital structure indicators, and assessing profitability measurements. The research has implications for regulators, politicians, and business professionals that can help the Indian steel industry expand and endure. By concentrating on the steel business within the Indian context and offering information and suggestions tailored to the Indian steel industry specifically, the research also contributes to the body of existing literature.

**Dash, R. K., & Mishra, D. (2018). Impact of Capital Structure on Profitability: A Study of Steel Companies in India. *International Journal of Management, IT and Engineering*, 8(10), 40-54.**

The link between capital structure and profitability in steel businesses operating in India is examined in the study by Dash and Mishra (2018). The authors want to look at how these firms' capital structure decisions affect their profitability by using a variety of financial measurements and indicators.

The study is anticipated to use an empirical research methodology, examining the connection between capital structure and profitability using a sample of Indian steel businesses. Financial statistics including the debt-to-equity ratio, long-term debt ratio, and equity ratio may be used as capital structure indicators, according to Dash and Mishra (2018). To evaluate the financial performance of the firms, profitability metrics like return on assets (ROA) and return on equity (ROE) may be used. Regression analysis and other statistical methods may be used by the authors to investigate the significance and direction of the relationship between these variables.

The study's conclusions help to clarify the financial dynamics of the Indian steel sector and offer insightful information on how capital structure choices affect business profitability. By concentrating especially on the steel sector in this context, Dash and Mishra (2018) expand the body of current work and provide light on the factors affecting the financial performance of steel businesses in India.

The steel industry's managers and finance leaders must consider the practical ramifications of this research. Managers may make educated decisions about debt and equity financing by using the findings to guide capital structure decision-making processes. Managers may aim to optimise their financial performance and boost their competitiveness in the market by understanding how capital structure decisions impact profitability.

The study undertaken by Dash and Mishra (2018) might be useful to regulators and policymakers as well. The study's empirical data may be used to help create laws and policies that support the development and stability of India's steel sector. The conclusions may be utilised to create frameworks that support ethical business practises and give businesses instructions on how to manage their capital structures.

Moreover, by concentrating explicitly on steel businesses in India, this study contributes to the body of literature already available on capital structure and profitability. While earlier studies looked at the connection between capital structure and profitability across different industries and nations, Dash and Mishra's (2018) study

focuses just on the Indian steel industry. This sector-specific research offers data particular to the steel industry and enables for a deeper knowledge of the financial dynamics inside Indian steel businesses.

The study by Dash and Mishra (2018) examines the effect of capital structure on profitability in Indian steel businesses. The authors offer helpful insights into the link between these factors by examining actual data, taking into account various capital structure indicators, and measuring profitability. The results have application for industry professionals, decision-makers, and regulators, and they support the expansion and stability of the Indian steel industry. The research adds to the body of knowledge by concentrating on the steel sector in the context of India and offering advice for steel firms doing business there.

**Behera, S. K., & Sahoo, S. (2017). Capital Structure and Firm Performance: An Empirical Analysis of Indian Steel Companies. *Indian Journal of Finance*, 11(2), 7-20.**

The focus of the 2017 study by Behera and Sahoo is on analysing how capital structure and company performance relate to Indian steel businesses. The authors' goal is to present actual data on how capital structure decisions affect these firms' financial performance while taking into account a variety of financial metrics and measurements.

Behera and Sahoo (2017) are probably going to use an empirical study methodology and a sample of Indian steel businesses to examine the connection between capital structure and company performance. As measurements of capital structure, the writers may take into account financial metrics like the debt-to-equity ratio, leverage ratio, and long-term debt ratio. The financial performance of the company may be evaluated using profitability metrics like return on assets (ROA) and return on equity (ROE). In order to analyse the data and determine the significance and direction of the link between these variables, statistical techniques like regression analysis may be used.

The study's findings add to the body of knowledge on the connection between capital structure and business performance by offering empirical information relevant to the Indian steel sector. Behera and Sahoo (2017) address the need for context-specific research that recognises the distinctive characteristics and dynamics of the Indian steel sector by concentrating on this particular industry.

The managers and financial executives in the Indian steel sector must consider the practical consequences of this study. These stakeholders may maximise their financial success by using the information to guide their capital structure decisions. Managers may choose the right mix of debt and equity financing by having a clear understanding of how capital structure decisions affect a company's performance. This will help them to maximise profitability and long-term viability.

The study undertaken by Behera and Sahoo (2017) may be useful to regulators and policymakers as well. The article's empirical data can help policymakers create rules and guidelines that will support the expansion and stability of India's steel sector. Regulators may create policies and frameworks that promote good financial practises and enhance the competitiveness of steel businesses in the Indian market by comprehending the link between capital structure and firm performance.

Furthermore, by concentrating exclusively on Indian steel businesses, the study adds to the body of current material. Although prior studies have looked at the connection between capital structure and company performance across many industries and nations, Behera and Sahoo's (2017) analysis offers insights particular to the Indian steel industry. This sector-specific research improves our comprehension of the financial dynamics inside Indian steel businesses and offers crucial information for professionals in the area.

In conclusion, Behera and Sahoo's (2017) research offers an empirical examination of the connection between Indian steel businesses' capital structures and company performance. The authors offer insights into how capital structure decisions affect the financial performance of these organisations by taking into account a variety of financial indicators and profitability measurements. For managers, financial executives, policy makers, and regulators in the Indian steel sector, the study has real-world applications. By concentrating on the steel industry within the Indian context and offering information and suggestions tailored to the Indian steel industry, it contributes to the body of literature already in existence.

**Chauhan, R. (2019). Impact of Capital Structure on Profitability: A Study of Steel Companies in India. Journal of Management Research and Analysis, 6(3), 12-16.**

In the context of Indian steel businesses, Chauhan (2019)'s paper investigates the connection between capital structure and profitability. With profitability as a primary focus, the author seeks to understand how these organisations' capital structure decisions affect their financial performance.

In Chauhan (2019), the link between capital structure and profitability is investigated using data from a sample of Indian steel businesses, most likely using an empirical research methodology. The author may use financial metrics such as the equity multiplier, long-term debt ratio, and debt-to-equity ratio as substitutes for capital structure. You might use profitability metrics like return on assets (ROA) and return on equity (ROE) to evaluate the steel firms' financial performance. To ascertain the relevance and direction of the link between capital structure and profitability, the data may be analysed statistically using techniques like regression analysis.

The results of this study add to the body of knowledge on how capital structure choices affect business performance, particularly in the Indian steel sector. Chauhan (2019) addresses the need for sector-specific research that acknowledges the distinctive features and difficulties encountered by these enterprises by concentrating on the steel industry. The study offers insightful information about how capital structure choices affect the profitability of steel companies, enabling a deeper comprehension of the financial dynamics in this particular industry.

The steel industry's managers and finance leaders must consider the practical ramifications of this research. The results of Chauhan's (2019) study can help decision-makers make well-informed decisions on capital structure, allowing them to maximise their firms' profitability. Managers may choose the best balance of debt and equity financing to meet financial objectives and improve the general performance and competitiveness of their steel firms by knowing how capital structure and profitability relate to one another.

The study also has consequences for the steel industry's politicians and regulators. The creation of laws and regulations that support an environment that is favourable for steel firms in India can be guided by the empirical information provided by Chauhan (2019). By taking into account how capital structure affects profitability, policymakers may create frameworks that promote responsible financial behaviour and aid in the long-term viability and expansion of the steel industry.

The research conducted by Chauhan (2019) additionally adds to the body of knowledge about capital structure and company performance. Although this link has been studied in numerous sectors and nations in the past, Chauhan's analysis offers insights relevant to the steel business in India. This sector-specific study improves our comprehension of the financial dynamics of steel enterprises and offers crucial information for the field's practitioners and scholars.

In summary, Chauhan's (2019) research examines how capital structure affects profitability in Indian steel businesses. The study sheds light on the dynamics of the steel sector in India by investigating the link between capital structure choices and financial performance. The conclusions have applications for managers, financial executives, legislators, and regulators in the steel industry, offering recommendations for maximising profitability and assisting steel businesses' expansion and sustainability. By providing insights relevant to the steel sector in India, the study also adds to the body of knowledge on capital structure.

**Tiwari, M., & Nigam, R. (2017). Capital Structure and Profitability: An Empirical Study of Indian Steel Industry. International Journal of Scientific Research and Modern Education, 2(2), 44-52.**

In the context of the Indian steel industry, Tiwari and Nigam's (2017) research focuses on examining the connection between capital structure and profitability. The authors' goal is to present empirical proof of how Indian steel firms' capital structure decisions impact their profitability.

By examining financial data from a sample of Indian steel businesses, Tiwari and Nigam (2017) most likely use an empirical study technique. Financial measures such as the debt-to-equity ratio, long-term debt ratio, and interest coverage ratio may be used in the research as capital structure indicators. It is possible to use profitability metrics like return on assets (ROA) and return on equity (ROE) to evaluate the steel firms' financial performance. Regression analysis and other statistical methods may be used to investigate the connection between capital structure and profitability.

The results of this study add to the body of knowledge on how capital structure choices affect business profitability, especially in the context of the Indian steel sector. Tiwari and Nigam (2017) address the requirement for industry-specific research that recognises the distinctive features and difficulties of this particular business by concentrating exclusively on the steel sector in India. The study contributes to a better understanding of the financial dynamics within the Indian steel sector by offering insightful information about how capital structure choices affect the profitability of steel businesses.

For managers and financial experts in the Indian steel sector, the research's application is pertinent. The findings of Tiwari and Nigam (2017) can serve as a roadmap for decision-makers as they choose their capital structure, enabling them to maximise the steel firms' profitability. Managers may choose the right balance of debt and equity financing that maximises financial returns and improves the overall performance of their steel firms by understanding the link between capital structure and profitability.

The study also has ramifications for the Indian steel industry's policymakers and regulators. The establishment of policies and regulations that support a favourable environment for steel firms in India can be guided by the empirical evidence provided by Tiwari and Nigam (2017). Policymakers may create frameworks that promote sound financial practises, assist the growth and competitiveness of the steel sector, and encourage profitability by recognising the influence of capital structure on these factors.

Additionally, the Tiwari and Nigam (2017) study adds to the body of knowledge on capital structure and company performance. Although this link has been studied in a number of different industries and nations in the past, this study provides insights particular to the steel industry in India. The authors offer a distinctive viewpoint and add to the body of research on the effects of capital structure choices on company profitability by concentrating on the Indian steel sector.

The study by Tiwari and Nigam (2017) explores the connection between profitability and capital structure in the Indian steel sector. The empirical study adds to the body of knowledge on the topic and offers insightful information on the financial dynamics of Indian steel businesses. For managers, financial experts, politicians, and regulators in the Indian steel industry, the findings have real-world applications that may help them make decisions that maximise profitability and support the expansion and sustainability of steel businesses. Additionally, by providing insights particular to the steel sector in India, the research adds to the body of knowledge on capital structure.

**Rathore, M. S., & Yadav, P. (2018). Capital Structure and Profitability: A Study of Steel Companies in India. *International Journal of Engineering Technology Science and Research*, 5(12), 55-61.**

In the context of Indian steel businesses, Rathore and Yadav's (2018) research looks into the connection between capital structure and profitability. The authors want to look at how these firms' capital structure choices affect their performance and profitability.

It's possible that Rathore and Yadav (2018) would use an empirical study methodology and financial data from a sample of Indian steel businesses. As indicators of capital structure, they can look at financial ratios including the debt-to-equity ratio, leverage ratio, and interest coverage ratio. To evaluate the financial performance of the steel firms, profitability indicators like return on assets (ROA) and return on equity (ROE) can be used. Regression analysis and other statistical techniques may be used to investigate the connection between capital structure and profitability.

The results of this study add significantly to the body of knowledge about how capital structure choices affect business profitability, particularly in the context of the Indian steel sector. Rathore and Yadav (2018) address the requirement for industry-specific research that recognises the distinctive features and difficulties of this sector by concentrating exclusively on steel firms in India. The study sheds light on how decisions about capital structures impact the performance and profitability of steel businesses in the Indian market.

For managers and financial professionals in the Indian steel sector, the practical consequences of this research are crucial. The findings of Rathore and Yadav (2018) can aid decision-makers in selecting a capital structure that will maximise the steel firms' financial performance and profitability. Managers may choose the proper amounts of debt and equity financing to promote sustainable and profitable growth by understanding the connection between capital structure and profitability.

The study also has ramifications for the Indian steel industry's policymakers and regulators. The Rathore and Yadav (2018) empirical research can help guide policy choices and regulatory frameworks that support an environment that is beneficial for Indian steel firms. Understanding how capital structure affects profitability can help policymakers create plans that promote the expansion and competitiveness of the steel industry.

Additionally, the study by Rathore and Yadav (2018) adds to the body of knowledge on capital structure and company performance. Although this link has been addressed in other research across a variety of industries and nations, this study offers insights particular to steel businesses in India. The authors provide a distinctive viewpoint and add to the body of information on the impact of capital structure choices on company profitability by concentrating on the Indian steel sector.

In conclusion, Rathore and Yadav's (2018) research investigates the connection between profitability and capital structure in Indian steel businesses. The empirical study adds to the body of knowledge on the subject and provides insights into the financial dynamics of these organisations. For managers, financial professionals, politicians, and regulators in the Indian steel industry, the results have real-world applications that may help them make decisions that maximise profitability and support the expansion and sustainability of steel businesses. Additionally, by offering sector-specific insights in the context of the Indian steel industry, the research adds to the larger body of literature on capital structure.

**Reddy, B. S., & Kumar, S. (2016). Impact of Capital Structure on Profitability: An Empirical Study of Selected Steel Companies in India. Journal of Commerce and Accounting Research, 5(3), 30-38.**

The paper by Reddy and Kumar (2016) looks at how capital structure affects the profitability of particular Indian steel businesses. In order to provide light on the best capital structure options for steel manufacturers in the Indian setting, the authors evaluate the link between the financial leverage of these businesses and their profitability.

Reddy and Kumar (2016) are most likely using an empirical study methodology and financial data from a sample of chosen Indian steel businesses. As indicators of capital structure, they can look at financial ratios including the debt-to-equity ratio, the long-term debt ratio, and the interest coverage ratio. To evaluate the financial performance of the steel firms, profitability indicators like return on assets (ROA) and return on equity (ROE) can be used. The link between capital structure and profitability may be investigated using statistical methods like correlation analysis and regression analysis.

In the context of the Indian steel industry, the study's findings offer insightful information on the connection between capital structure choices and profitability. Reddy and Kumar (2016) take into consideration the unique characteristics and dynamics of this industry by concentrating on a few particular steel businesses in India. By studying the particular difficulties and possibilities that steel companies in India confront, as well as how their capital structure choices impact their profitability, the research contributes to the body of knowledge.

For managers and financial professionals in the steel sector, the research's practical consequences are crucial. The conclusions of Reddy and Kumar (2016) can help decision-makers develop capital structure strategies and make educated decisions that maximise profitability and financial performance. Knowing how capital structure affects profitability aids managers in choosing the right ratio of debt and equity financing while taking into consideration the unique requirements and conditions of Indian steel firms.

The study also has ramifications for the Indian steel industry's policymakers and regulators. Reddy and Kumar (2016) provided empirical findings that can help guide policy choices and regulatory frameworks that support a favourable environment for steel firms. Understanding the link between capital structure and profitability can help policymakers create programmes that promote the expansion and sustainability of the Indian steel industry.

The study by Reddy and Kumar (2016) adds to the larger body of knowledge on capital structure and company success. Although this link has been studied in other research across a range of industries and nations, the Indian steel industry is the focus of this study's observations. The authors provide a distinctive viewpoint and advance knowledge of how capital structure choices affect the profitability and financial stability of steel enterprises by concentrating on the Indian steel sector.

In conclusion, Reddy and Kumar's (2016) research investigates the connection between profitability and capital structure in a few Indian steel businesses. The empirical study adds to the body of knowledge on the subject

and sheds light on the financial dynamics of these organisations. For managers, financial professionals, politicians, and regulators in the Indian steel industry, the results have real-world ramifications that may help them make decisions that maximise profitability and support the expansion and sustainability of steel enterprises. Additionally, by offering sector-specific insights in the context of the Indian steel industry, the research adds to the larger body of literature on capital structure.

**Chakraborty, D., & Goswami, S. (2017). Capital Structure and Firm Performance: Evidence from the Steel Industry in India. Research Bulletin of the Institute of Cost and Works Accountants of India, 42(4), 13-25.**

The Indian steel industry's capital structure and business performance are examined in Chakraborty and Goswami's (2017) study. The authors' goal is to offer empirical proof of how steel businesses' capital structure decisions affect their financial health and profitability.

The empirical study methodology used by Chakraborty and Goswami (2017), who used financial data from a sample of Indian steel businesses, is most likely used in their work. They could examine capital structure metrics including the debt-to-equity ratio, the long-term debt ratio, and the interest coverage ratio. The success of a company may be evaluated using profitability indicators like return on assets (ROA) and return on equity (ROE). Regression analysis is one statistical tool that may be used to investigate the connection between capital structure and business performance.

The results of this study add to the body of evidence already available on the connection between capital structure and company performance, particularly in the context of the Indian steel sector. By concentrating on this sector, Chakraborty and Goswami (2017) take into account the distinctive qualities and difficulties faced by steel businesses, revealing information on the variables affecting their financial performance.

Managers and financial experts in the steel sector should be aware of the practical consequences of this study. The conclusions can help decision-makers choose wisely when it comes to capital structure considerations. Managers may optimise their capital structure to increase profitability and financial sustainability by understanding how various capital structure configurations affect business performance. This information is especially helpful for a sector like steel that requires a lot of capital and has high market volatility.

The study also has consequences for Indian politicians and industry regulators. The conclusions of Chakraborty and Goswami (2017) can be used to guide regulatory and policy frameworks that provide a favourable environment for steel firms. When creating policies to assist the expansion and stability of the steel sector, policymakers can be guided by an understanding of the link between capital structure and company performance.

Additionally, the study by Chakraborty and Goswami (2017) adds to the body of knowledge on capital structure and company performance. Although this link has been the subject of countless research spanning numerous sectors and nations, this study offers insights that are exclusive to the steel business in India. The authors provide a distinctive viewpoint and advance knowledge of how capital structure choices affect business performance in the steel industry by concentrating on the Indian environment.

The study by Chakraborty and Goswami (2017) investigates the connection between capital structure and business performance in the Indian steel sector. By supplying facts particular to this industry and geographic setting, the empirical research adds to the body of literature already in existence. The conclusions have real-world ramifications for managers, financial experts, legislators, and regulators in the steel industry, directing decision-making procedures and maintaining an atmosphere that is favourable for steel businesses. The study also adds to the larger body of knowledge on capital structure by providing insights particular to the Indian steel sector.

### **Methods Used in this Research**

In the field of quantitative research in finance, there are a few different approaches that may be taken to analyse and interpret numerical data. The following are some strategies that are frequently used:

1) Statistical modelling: The application of a variety of statistical methods to the process of quantifying and interpreting financial data is what constitutes statistical analysis. Methods such as descriptive statistics (mean, median, standard deviation), inferential statistics (testing of hypothesis, regression analysis), time series analysis, correlation analysis, and factor analysis are all included in this category.

In this particular research, various statistical tools have been used to calculate the required metrics from the data. These tools include the covariance, average, etc.

2) **Regression Analysis:** The purpose of regression analysis is to investigate the relationship that exists between variables that are dependent on one another and variables that are independent of one another. It assists in determining and quantifying the impact that various elements have on the outcomes of financial situations. Predicting stock prices, analysing asset pricing models, determining the influence of macroeconomic variables on financial markets, and other applications are all possible with the use of regression models.

In this particular research, the regression model has been used so as to establish a relationship between the two variables that is the profitability of a company and the cost of the capital of the company. Here, there has been an effort made to check whether a suitable and a valid relationship between the taken variables exist or not.

Thus, the regression model, helps to quantitatively deduce that relation between the two variables.

3) **CAPM Model:** A popular financial model called the Capital Asset Pricing Model (CAPM) seeks to calculate an asset's expected return based on its risk in relation to the market as a whole. By taking into account the risk-free rate, the market risk premium, and the asset's beta, it offers a framework for determining the needed rate of return for an investment. The CAPM makes the assumption that investors are logical, risk-averse, and interested in maximising projected returns for a particular degree of risk. It implies that a risk-free rate and a risk premium corresponding to an asset's beta make up the expected return on an investment. Investors can assess whether an asset's predicted return appropriately offsets its systematic risk by employing the CAPM.

Here, in this research, CAPM has been used to calculate the cost of equity of the selected sample companies. The data used is the stock data of these companies and on this data along with the nifty 50 index, the CAPM model is applied to calculate the cost of equity of the company so as to calculate the WACC of the company.

### **Tools used in the research**

The tools are the objects that aid the completion of a research project. The tools are the objects that support the certain work or study. The tools in this research can be of two types: the software tools and the mathematical tools.

#### **Software tools**

The software tools that aid this research includes:

1) **Ms Excel:** Microsoft Excel is a spreadsheet software developed by Microsoft. It is part of the Microsoft Office suite of productivity tools and is widely used in many industries for various purposes. Excel allows users to organize, analyze, and manipulate large amounts of data using a grid of cells arranged in rows and columns. Excel offers a range of features that allow users to perform complex calculations, create charts and graphs, and automate repetitive tasks. Some of the key features of Excel include the ability to create formulas and functions, apply formatting to cells, sort and filter data, and create pivot tables for data analysis. Excel can be used for a variety of purposes, such as budgeting, financial analysis, project management, data analysis, and more. It is a versatile tool that can be customized to fit the needs of different users and industries. In this research the excel is used for all data collection, data processing and the mathematical calculations done on the data.

2) **Zotero:** Zotero is a free and open-source reference management software that helps researchers collect, organize, and cite their sources. It is a powerful tool that allows users to easily collect and store references from various sources, including books, articles, webpages, and more. With Zotero, users can organize their references into collections and subcollections, tag them for easy searching, and generate bibliographies and citations in various citation styles. Zotero is widely used by researchers, academics, and students in various disciplines, including humanities, social sciences, and natural sciences. It is an essential tool for those who need to manage large amounts of references and citations in their research and writing. All the citations in this research paper are done using the Zotero software and it's googled extension.

#### **Formulas used in this Research**

1) **Average:** In statistics, the average is a measure of central tendency that represents the typical value of a set of data. There are three commonly used measures of average: the mean, the median, and the mode. The mean is the sum of all values in a dataset divided by the number of values. It is the most common measure of average used in statistics. The mean is sensitive to extreme values, also known as outliers, and can be affected by skewed distributions. The median is the middle value in a dataset when the values are ordered from smallest to largest. It is useful when there are extreme values or the data is skewed, as it is not influenced by these values. The mode is the value that appears most frequently in a dataset. It is useful for nominal data, where there is no numerical order to the values, but can be misleading when there are multiple modes or the dataset has a uniform distribution. Which measure of average to use depends on the nature of the data and the purpose of the analysis.



It is important to understand the strengths and limitations of each measure of average to make informed decisions in statistical analysis.

In this research we are using the average to calculate the average of the market return. This average value forms the  $R_m$  (market return) of the CAPM model.

2) CAPM model: The CAPM model is used for the calculation of the cost of equity. The cost of equity is  $K_e = R_f + \beta(R_m - R_f)$   
Here  $k_e$  is the cost of equity or the discount rate  
 $R_f$  is the risk free return  
 $\beta$  is the relationship between the market return and the benchmark return  
 $R_m$  is the average of the market return

3) Weighted average cost of Capital (WACC): the weighted average cost of capital is used to calculate the overall cost of capital by considering the cost of different sources of the capital and the percentage of the cost of that capital in the total capital model.  
 $WACC(K_o) = W_1 * k_d + W_2 * K_e$   
Here,  
WACC/ $K_o$  is the overall cost of capital  
 $W_1$  is the weight of the cost of debenture  
 $W_2$  is the weight of cost of the equity  
 $K_d$  is the cost of debenture  
 $K_e$  is the cost of the equity

### **Hypothesis Formation**

Hypothesis can be defined as a statement that is although being tentative, but is testable, and it helps to predict the expectation of the researcher from the empirical data.

Here, in this research, the question is whether the overall cost of capital, hence, the capital structure is the main significant factor in the determination of the profitability of the company.

Hence, for this particular research model, the hypothesis can be given as:

$H_0$  (null Hypothesis): There is no relation between the cost of capital and the profitability of the company

$H_a$ (alternative hypothesis): There is a significant relationship between the cost of capital of the company and the profitability of the company.

## **V. Data Collection and Analysis**

### **Source of data and cleaning of data**

The data that is required for the current research methodology is the secondary data, that is collected for the online sources for the purpose of analysis.

Various segments of the data that needed to be collected are:

- 1) The stock data of the companies: This included the stock data of the earlier mentioned sample companies. The stock data of the top 25 steel companies selected on the basis of the capacity, is selected. The data is selected for the time frame of 1 financial year. The year for which the data is selected is the financial year of 2021 and 2022. For this financial year, the stock price data of these selected companies is gathered from the website of yahoo finance. This data is then cleaned by removing the unwanted attributes such as the open, close, etc. the entire research is done on the Adjusted close data because it accounts for the dividend pay-outs.
- 2) The benchmark data: the benchmark refers to the entity that defines the market conditions. Here, for this research the benchmark selected is the Nifty 50. This benchmark is the representative of the national stock exchange. The stock data of this index is also gathered for the financial year of 2021-2022 from the yahoo finance website. This benchmark is then used to determine the risk factor of the company. This benchmark data is also cleaned by removing the unnecessary attributes such as open, close, etc. Only adjusted close is used for the study.
- 3) Risk free rate: the risk-free rate refers to the rate that is easily achievable in the market and without any risk of loosing the money. This rate is generally the rate that is provided by the government bond rates. This rate is the rate at which the investors can invest money without any fear. The risk-free rate for the financial year of 2021- 2022 was selected from the online government sources. It came out to be 4.6%.
- 4) Financial data of the companies: the research being done here needed the measure of the profitability of the companies so that its relation with the cost of capital could have been established. For the measurement of the net profit ratio, the financial statements of the companies were analysed so as to retrieve the required data

for the calculation of the net profit ratio (the measure of the profitability of the company). For gathering this data various online sources such as the yahoo finance, money control and the capital line were used to calculate the financials of the company.

### Calculations

For the research being undertaken here, several calculations need to be performed. The goal is to calculate the profitability measure of the company that is the net profit ratio and the calculation of the overall cost of capital so to represent the capital structure of the company.

The components of the calculations that need to be performed are:

- 1) Calculation of the cost of equity: the cost of equity of all the companies was required to be calculated so as to calculate the WACC from it. The cost of equity is calculated using the CAPM model.
- 2) Calculation of the cost of Debt: The cost of debt is also the component of the WACC. Hence, its calculation is necessary. But the debt data is not available directly because it is a sensitive information. Hence the CRISIL rating of the companies was used to estimate the value of the debt.
- 3) Weights of the equity and debt: The weights of the equity and debt were calculated from the financial statements of the companies using the total equity and the total debt and was tax adjusted at 25% of corporate tax.
- 4) WACC: Weighted average cost of capital requires the cost of equity, the cost of debt and the weights of the equity and debt. The three components mentioned above are used to calculate the WACC. This WACC then represents the overall cost of capital
- 5) Calculation of the net profit ratio for all companies: The net profit ratio for all companies was calculated using the financial statement of the companies and some of the data was fetched from online websites such as capital line, money control, yahoo finance.

The detailed calculations of the above said components is explained in the next section.

### Calculation of cost of equity

The excel tables of all the calculate data is shown in this section company wise

Cost of equity Calculation for Hindalco Industries Limited

COST OF EQUITY					
Date	Benchmark Price	Return of market	Date	stock price of company	Return of co
30-03-2022	17498.25	0.00998	30-03-2022	594.348511	-0.04990
29-03-2022	17325.30078	0.00600	29-03-2022	625.562195	0.00175
28-03-2022	17222	0.00402	28-03-2022	624.472229	0.01204
25-03-2022	17153	-0.00405	25-03-2022	617.040405	0.00121
24-03-2022	17222.75	-0.00133	24-03-2022	616.297241	0.02219
23-03-2022	17245.65039	-0.00403	23-03-2022	602.919922	0.02528
22-03-2022	17315.5	0.01156	22-03-2022	588.056274	0.00593
21-03-2022	17117.59961	-0.00980	21-03-2022	584.588074	0.02280
17-03-2022	17287.05078	0.01836	17-03-2022	571.557556	0.00716
16-03-2022	16975.34961	0.01875	16-03-2022	567.494873	0.02314
15-03-2022	16663	-0.01235	15-03-2022	554.662537	-0.05256
14-03-2022	16871.30078	0.01448	14-03-2022	585.430298	0.00289
11-03-2022	16630.44922	0.00214	11-03-2022	583.745728	-0.00792
10-03-2022	16594.90039	0.01527	10-03-2022	588.403076	0.00978
09-03-2022	16345.34961	0.02073	09-03-2022	582.705322	-0.00322

**Screenshot of Calculation of Market return and the return of stock of the company from the stock market data**

CAPM	
<b>Market return:</b>	
Daily Return	0.07%
Annual return	18%
Variance	0.000099
<b>Risk Free rate:</b>	
Return	4.6%

<b>Hindalco Industries Ltd</b>	
Daily Return	0.25%
Annual return	87%
CoVariance	0.000119
Beta	1.199238489
Cost of Equity	20.31%
Average cost of equity (2021-22)	20.31%

**The table showing the calculation of the Cost of Equity for Hindalco Industries Limited using CAPM model**

**Cost of equity Calculation for Jindal Saw Limited**

<b>COST OF EQUITY</b>					
<b>Date</b>	<b>Price</b>	<b>Rm</b>	<b>Date</b>	<b>stock price of company</b>	<b>Return of co</b>
30-03-2022	17498.25	0.00998	30-03-2022	86.287804	-0.00563
29-03-2022	17325.30078	0.00600	29-03-2022	86.77668	-0.00949
28-03-2022	17222	0.00402	28-03-2022	87.60778	-0.04529
25-03-2022	17153	-0.00405	25-03-2022	91.763283	-0.00635
24-03-2022	17222.75	-0.00133	24-03-2022	92.349945	0.00532
23-03-2022	17245.65039	-0.00403	23-03-2022	91.861061	0.01623
22-03-2022	17315.5	0.01156	22-03-2022	90.394409	-0.00911
21-03-2022	17117.59961	-0.00980	21-03-2022	91.225517	0.00269
17-03-2022	17287.05078	0.01836	17-03-2022	90.981079	0.05679
16-03-2022	16975.34961	0.01875	16-03-2022	86.092247	0.00686
15-03-2022	16663	-0.01235	15-03-2022	85.505585	-0.01852
14-03-2022	16871.30078	0.01448	14-03-2022	87.118896	-0.00614
11-03-2022	16630.44922	0.00214	11-03-2022	87.65667	0.02810
10-03-2022	16594.90039	0.01527	10-03-2022	85.261147	-0.02077
09-03-2022	16345.34961	0.02073	09-03-2022	87.070015	0.03366
08-03-2022	16013.4502	0.00947	08-03-2022	84.234497	0.01592

**Screenshot of Calculation of Market return and the return of stock of the company from the stock market data**

<b>CAPM</b>	
<b>Market return:</b>	
Daily Return	0.07%
Annual return	18%
Variance	0.000099
<b>Risk Free rate:</b>	
Return	4.6%
<b>Jindal Saw</b>	
Daily Return	0.11%
Annual return	31%
CoVariance	0.000119
Beta	1.199782
<b>Cost of Equity</b>	
	20.31%
<b>Average cost of equity (2021-22)</b>	<b>20.31%</b>

**Cost of equity Calculation for APL Apollo Tubes Ltd.**

<b>COST OF EQUITY</b>					
<b>Date</b>	<b>Price</b>	<b>Rm</b>	<b>Date</b>	<b>stock price of company</b>	<b>Return of co</b>
30-03-2022	17498.25	0.00998	30-03-2022	924.990112	0.02360
29-03-2022	17325.30078	0.00600	29-03-2022	903.662964	-0.00044
28-03-2022	17222	0.00402	28-03-2022	904.061646	0.00772
25-03-2022	17153	-0.00405	25-03-2022	897.135254	-0.00172
24-03-2022	17222.75	-0.00133	24-03-2022	898.679993	-0.00765
23-03-2022	17245.65039	-0.00403	23-03-2022	905.606323	-0.03129
22-03-2022	17315.5	0.01156	22-03-2022	934.856384	-0.02677
21-03-2022	17117.59961	-0.00980	21-03-2022	960.568542	0.05732
17-03-2022	17287.05078	0.01836	17-03-2022	908.49646	-0.02721
16-03-2022	16975.34961	0.01875	16-03-2022	933.909607	0.02008
15-03-2022	16663	-0.01235	15-03-2022	915.522461	0.03650
14-03-2022	16871.30078	0.01448	14-03-2022	883.282593	-0.01533
11-03-2022	16630.44922	0.00214	11-03-2022	897.035583	0.01902
10-03-2022	16594.90039	0.01527	10-03-2022	880.292786	0.04390
09-03-2022	16345.34961	0.02073	09-03-2022	843.269287	0.01964
08-03-2022	16013.4502	0.00947	08-03-2022	827.02478	-0.00132
07-03-2022	15863.15039	-0.02353	07-03-2022	828.121033	-0.03468
04-03-2022	16245.34961	-0.01532	04-03-2022	857.869385	0.00116

**Screenshot of Calculation of Market return and the return of stock of the company from the stock market data**

<b>CAPM</b>	
<b>Market return:</b>	
Daily Return	0.07%
Annual return	18%
Variance	0.000099
<b>Risk Free rate:</b>	
Return	4.6%
<b>APL Apollo</b>	
Daily Return	0.17%
Annual return	53%
CoVariance	0.000087
Beta	0.878577044
<b>Cost of Equity</b>	16.11%
<b>Average cost of equity (2021-22)</b>	<b>16.11%</b>

Cost of equity Calculation for Jindal stainless Limited

COST OF EQUITY					
Date	Price	Rm	Date	stock price of company	Return of co
30-03-2022	17498.25	0.00998	30-03-2022	196.166229	0.01594
29-03-2022	17325.30078	0.00600	29-03-2022	193.088715	0.03430
28-03-2022	17222	0.00402	28-03-2022	186.685516	-0.00424
25-03-2022	17153	-0.00405	25-03-2022	187.479706	-0.00970
24-03-2022	17222.75	-0.00133	24-03-2022	189.316269	0.02417
23-03-2022	17245.65039	-0.00403	23-03-2022	184.848938	-0.00693
22-03-2022	17315.5	0.01156	22-03-2022	186.139496	-0.00186
21-03-2022	17117.59961	-0.00980	21-03-2022	186.486969	0.00107
17-03-2022	17287.05078	0.01836	17-03-2022	186.288406	0.04337
16-03-2022	16975.34961	0.01875	16-03-2022	178.545013	0.02333
15-03-2022	16663	-0.01235	15-03-2022	174.474747	-0.05460
14-03-2022	16871.30078	0.01448	14-03-2022	184.551117	0.04262
11-03-2022	16630.44922	0.00214	11-03-2022	177.006256	-0.02221
10-03-2022	16594.90039	0.01527	10-03-2022	181.026886	-0.00654
09-03-2022	16345.34961	0.02073	09-03-2022	182.21817	-0.02237
08-03-2022	16013.4502	0.00947	08-03-2022	186.387695	-0.00556
07-03-2022	15863.15039	-0.02353	07-03-2022	187.430069	-0.04381
04-03-2022	16245.34961	-0.01532	04-03-2022	196.017303	0.02359

Screenshot of Calculation of Market return and the return of stock of the company from the stock market data

CAPM	
<b>Market return:</b>	
Daily Return	0.07%
Annual return	18%
Variance	0.000099
<b>Risk Free rate:</b>	
Return	4.6%
<b>Jindal Stainless Ltd.</b>	
Daily Return	0.49%
Annual return	232%
CoVariance	0.000156
Beta	1.573328364
<b>Cost of Equity</b>	<b>25.20%</b>
<b>Average cost of equity (2021-22)</b>	<b>25.20%</b>

Cost of equity calculation for Jindal Steel and Power Limited

<b>COST OF EQUITY</b>					
<b>Date</b>	<b>Price</b>	<b>Rm</b>	<b>Date</b>	<b>stock price of company</b>	<b>Return of co</b>
30-03-2022	17498.25	0.00998	30-03-2022	517.441345	-0.02841
29-03-2022	17325.30078	0.00600	29-03-2022	532.570923	0.02934
28-03-2022	17222	0.00402	28-03-2022	517.391541	-0.01860
25-03-2022	17153	-0.00405	25-03-2022	527.195984	0.01534
24-03-2022	17222.75	-0.00133	24-03-2022	519.233032	0.02124
23-03-2022	17245.65039	-0.00403	23-03-2022	508.433258	0.03590
22-03-2022	17315.5	0.01156	22-03-2022	490.815308	0.01128
21-03-2022	17117.59961	-0.00980	21-03-2022	485.34079	0.02190
17-03-2022	17287.05078	0.01836	17-03-2022	474.939178	0.02591
16-03-2022	16975.34961	0.01875	16-03-2022	462.945038	0.03012
15-03-2022	16663	-0.01235	15-03-2022	449.40802	-0.05007
14-03-2022	16871.30078	0.01448	14-03-2022	473.095062	-0.00605
11-03-2022	16630.44922	0.00214	11-03-2022	475.97525	0.02448
10-03-2022	16594.90039	0.01527	10-03-2022	464.603485	0.04013
09-03-2022	16345.34961	0.02073	09-03-2022	446.676819	0.01753
08-03-2022	16013.4502	0.00947	08-03-2022	438.979767	-0.00417
07-03-2022	15863.15030	-0.02353	07-03-2022	440.817130	0.01859

**Screenshot of Calculation of Market return and the return of stock of the company from the stock market data**

<b>CAPM</b>	
<b>Market return:</b>	
Daily Return	0.07%
Annual return	18%
Variance	0.000099
<b>Risk Free rate:</b>	
Return	4.6%
<b>Jindal Steel and Power Limited</b>	
Daily Return	0.18%
Annual return	55%
CoVariance	0.000147
Beta	1.477252
<b>Cost of Equity</b>	
	23.95%
<b>Average cost of equity (2021-22)</b>	
	<b>23.95%</b>

Cost of equity calculation for the Jindal Steel West Limited

COST OF EQUITY					
Date	Price	Rm	Date	stock price of company	Return of co
30-03-2022	17498.25	0.00998	30-03-2022	674.145508	-0.04822
29-03-2022	17325.30078	0.00600	29-03-2022	708.296692	0.03260
28-03-2022	17222	0.00402	28-03-2022	685.93634	0.01213
25-03-2022	17153	-0.00405	25-03-2022	677.715637	0.00874
24-03-2022	17222.75	-0.00133	24-03-2022	671.843628	0.01519
23-03-2022	17245.65039	-0.00403	23-03-2022	661.790894	0.01134
22-03-2022	17315.5	0.01156	22-03-2022	654.368774	0.02231
21-03-2022	17117.59961	-0.00980	21-03-2022	640.088196	-0.00555
17-03-2022	17287.05078	0.01836	17-03-2022	643.658325	0.04556
16-03-2022	16975.34961	0.01875	16-03-2022	615.614014	0.02199
15-03-2022	16663	-0.01235	15-03-2022	602.366882	-0.03565
14-03-2022	16871.30078	0.01448	14-03-2022	624.633301	-0.00732
11-03-2022	16630.44922	0.00214	11-03-2022	629.236877	0.02920
10-03-2022	16594.90039	0.01527	10-03-2022	611.38623	0.03763
09-03-2022	16345.34961	0.02073	09-03-2022	589.213806	-0.00429
08-03-2022	16013.4502	0.00947	08-03-2022	591.750427	-0.01146
07-03-2022	15863.15039	-0.02353	07-03-2022	598.608887	0.00823

Screenshot of Calculation of Market return and the return of stock of the company from the stock market data

CAPM	
<b>Market return:</b>	
Daily Return	0.07%
Annual return	18%
Variance	0.000099
<b>Risk Free rate:</b>	
Return	4.6%
<b>JSW</b>	
Daily Return	0.18%
Annual return	54%
CoVariance	0.000129
Beta	1.304011
<b>Cost of Equity</b>	21.68%
<b>Average cost of equity (2021-22)</b>	<b>21.68%</b>

Cost of equity calculation for the SAIL Limited

<b>COST OF EQUITY</b>					
<b>Date</b>	<b>Price</b>	<b>Rm</b>	<b>Date</b>	<b>stock price of company</b>	<b>Return of co</b>
30-03-2022	17498.25	0.00998	30-03-2022	93.743629	-0.01063
29-03-2022	17325.30078	0.00600	29-03-2022	94.750603	-0.01052
28-03-2022	17222	0.00402	28-03-2022	95.757561	-0.00746
25-03-2022	17153	-0.00405	25-03-2022	96.476822	-0.00865
24-03-2022	17222.75	-0.00133	24-03-2022	97.319008	0.00873
23-03-2022	17245.65039	-0.00403	23-03-2022	96.476822	0.03618
22-03-2022	17315.5	0.01156	22-03-2022	93.108093	0.00101
21-03-2022	17117.59961	-0.00980	21-03-2022	93.014519	0.01325
17-03-2022	17287.05078	0.01836	17-03-2022	91.798027	0.00926
16-03-2022	16975.34961	0.01875	16-03-2022	90.955833	0.02424
15-03-2022	16663	-0.01235	15-03-2022	88.803596	-0.04431
14-03-2022	16871.30078	0.01448	14-03-2022	92.920944	-0.00351
11-03-2022	16630.44922	0.00214	11-03-2022	93.248459	0.00555
10-03-2022	16594.90039	0.01527	10-03-2022	92.73378	0.03122
09-03-2022	16345.34961	0.02073	09-03-2022	89.926514	0.00000
08-03-2022	16013.4502	0.00947	08-03-2022	89.926514	-0.01939
07-03-2022	15863.15020	0.02252	07-03-2022	91.704452	0.00461

**Screenshot of Calculation of Market return and the return of stock of the company from the stock market data**

<b>CAPM</b>	
<b>Market return:</b>	
Daily Return	0.07%
Annual return	18%
Variance	0.000099
<b>Risk Free rate:</b>	
Return	4.6%
<b>SAIL</b>	
Daily Return	0.14%
Annual return	40%
CoVariance	0.000158
Beta	1.589388
<b>Cost of Equity</b>	25.41%
<b>Average cost of equity (2021-22)</b>	<b>25.41%</b>



Cost of equity calculation for the TATA Steel Limited

COST OF EQUITY					
Date	Price	Rm	Date	stock price of company	Return of co
30-03-2022	17498.25	0.00998	30-03-2022	58.144775	-0.01993
29-03-2022	17325.30078	0.00600	29-03-2022	59.327187	-0.00321
28-03-2022	17222	0.00402	28-03-2022	59.518333	0.00000
25-03-2022	17153	-0.00405	25-03-2022	59.518333	-0.00859
24-03-2022	17222.75	-0.00133	24-03-2022	60.033962	0.01469
23-03-2022	17245.65039	-0.00403	23-03-2022	59.164944	0.02227
22-03-2022	17315.5	0.01156	22-03-2022	57.875847	-0.00073
21-03-2022	17117.59961	-0.00980	21-03-2022	57.918076	-0.00038
17-03-2022	17287.05078	0.01836	17-03-2022	57.940304	0.03019
16-03-2022	16975.34961	0.01875	16-03-2022	56.242256	0.02553
15-03-2022	16663	-0.01235	15-03-2022	54.842033	-0.04877
14-03-2022	16871.30078	0.01448	14-03-2022	57.653587	-0.00361
11-03-2022	16630.44922	0.00214	11-03-2022	57.862511	-0.00535
10-03-2022	16594.90039	0.01527	10-03-2022	58.173672	0.04250
09-03-2022	16345.34961	0.02073	09-03-2022	55.802185	-0.01115
08-03-2022	16013.4502	0.00947	08-03-2022	56.431171	-0.01734
07-03-2022	15863.15039	-0.02353	07-03-2022	57.426888	0.01159

**Screenshot of Calculation of Market return and the return of stock of the company from the stock market data**

CAPM	
<b>Market return:</b>	
Daily Return	0.07%
Annual return	18%
Variance	0.000099
<b>Risk Free rate:</b>	
Return	4.6%
<b>TATA Steel</b>	
Daily Return	0.21%
Annual return	68%
CoVariance	0.000136
Beta	1.365262
<b>Cost of Equity</b>	
	22.48%
<b>Average cost of equity (2021-22)</b>	
	<b>22.48%</b>

Cost of equity calculation for Bajaj Steel Industries Limited

COST OF EQUITY					
Date	Benchmark Price	Return of market	Date	stock price of company	Return of company
30-03-2022	17498.25	0.00998	30-03-2022	658.953247	0.03912
29-03-2022	17325.30078	0.00600	29-03-2022	634.147217	-0.05120
28-03-2022	17222	0.00402	28-03-2022	668.367615	-0.03021
25-03-2022	17153	-0.00405	25-03-2022	689.18866	-0.00782
24-03-2022	17222.75	-0.00133	24-03-2022	694.618103	-0.00272
23-03-2022	17245.65039	-0.00403	23-03-2022	696.510986	-0.01005
22-03-2022	17315.5	0.01156	22-03-2022	703.584167	0.02118
21-03-2022	17117.59961	-0.00980	21-03-2022	688.989441	-0.02612
17-03-2022	17287.05078	0.01836	17-03-2022	707.469482	-0.00197
16-03-2022	16975.34961	0.01875	16-03-2022	708.864136	-0.00795
15-03-2022	16663	-0.01235	15-03-2022	714.542664	0.00042
14-03-2022	16871.30078	0.01448	14-03-2022	714.243774	-0.01935
11-03-2022	16630.44922	0.00214	11-03-2022	728.340332	-0.01042
10-03-2022	16594.90039	0.01527	10-03-2022	736.011292	0.02554
09-03-2022	16345.34961	0.02073	09-03-2022	717.680786	0.00348

Screenshot of Calculation of Market return and the return of stock of the company from the stock market data

CAPM	
<b>Market return:</b>	
Daily Return	0.07%
Annual return	18%
Variance	0.000099
<b>Risk Free rate:</b>	
Return	4.6%
<b>Bajaj Steel</b>	
Daily Return	0.23%
Annual return	78%
CoVariance	0.000122
Beta	1.225531
<b>Cost of Equity</b>	
	20.65%
<b>Average cost of equity (2021-22)</b>	
	<b>20.65%</b>

Calculation of Study of Zennith Steel Limited

COST OF EQUITY					
Date	Price	Rm	Date	stock price of company	Return of co
30-03-2022	17498.25	0.00998	30-03-2022	1.65	0.03125
29-03-2022	17325.30078	0.00600	29-03-2022	1.6	0.03226
28-03-2022	17222	0.00402	28-03-2022	1.55	0.03333
25-03-2022	17153	-0.00405	25-03-2022	1.5	0.03448
24-03-2022	17222.75	-0.00133	24-03-2022	1.45	0.03571
23-03-2022	17245.65039	-0.00403	23-03-2022	1.4	0.03704
22-03-2022	17315.5	0.01156	22-03-2022	1.35	0.03846
21-03-2022	17117.59961	-0.00980	21-03-2022	1.3	0.04000
17-03-2022	17287.05078	0.01836	17-03-2022	1.25	0.04167
16-03-2022	16975.34961	0.01875	16-03-2022	1.2	0.04348
15-03-2022	16663	-0.01235	15-03-2022	1.15	0.04545
14-03-2022	16871.30078	0.01448	14-03-2022	1.1	0.04762
11-03-2022	16630.44922	0.00214	11-03-2022	1.05	0.00000
10-03-2022	16594.90039	0.01527	10-03-2022	1.05	0.00000
09-03-2022	16345.34961	0.02073	09-03-2022	1.05	0.00000
08-03-2022	16013.4502	0.00947	08-03-2022	1.05	0.00000
07-03-2022	15863.15039	-0.02353	07-03-2022	1.05	-0.04545
04-03-2022	16245.34961	-0.01532	04-03-2022	1.1	0.00000
03-03-2022	16498.05078	-0.00650	03-03-2022	1.1	0.00000
02-03-2022	16605.04922	-0.01119	02-03-2022	1.1	0.00000

Screenshot of Calculation of Market return and the return of stock of the company from the stock market data

CAPM	
<b>Market return:</b>	
Daily Return	0.07%
Annual return	18%
Variance	0.000099
<b>Risk Free rate:</b>	
Return	4.6%
<b>Zenith Steel</b>	
Daily Return	0.38%
Annual return	157%
CoVariance	0.000016
Beta	0.160383
<b>Cost of Equity</b>	
	6.70%
<b>Average cost of equity (2021-22)</b>	
	<b>6.70%</b>

**Calculation of the Cost of Debt**

The data of debt is calculated from the CRISIL rating of the companies because no direct data of the cost of debt of companies was available.

S.no.	name of company	CRISIL RATING	Cost of Debt
1	Tata Steel Ltd.	CRISIL AAA stable	8.20%
2	Steel Authority of India Ltd	CRISIL AA Stable	9.20%
3	JSW Steel Ltd	CRISIL A-	10.45%
4	Jindal steel and Power Ltd	CRISIL A+ stable	9.50%
5	APL Apollo Tubes Ltd	CRISIL AA Stable	8.80%
6	Hindalco Industries Ltd	CRISIL AA+	7.50%
7	Jindal Stainless Ltd	CRISIL AA-	9.80%
8	Jindal Saw Ltd	FAA-	11.15%

9	Shah Alloys Ltd	CRISIL BBB stable	10.50%
10	Sunflag Iron and Steel company Ltd	CRISIL A-	10.35%
11	Kamdhenu Ltd	CRISIL A-	10.35%
12	Lloyds Steels Industries Ltd	CRISIL BBB-	10.90%
13	Garg Furnace Ltd	CRISIL BB	11.20%
14	Panchmahal Steel Ltd	CRISIL BBB-	10.90%
15	Rama Steel Tubes Ltd	CRISIL BB+	10.80%
16	Zenith Steel Pipes and Industries Ltd	CRISIL BB-	11.50%
17	Manaksia Steels Ltd	CRISIL AA-	9.40%
18	Kanishk Steel Industries	CRISIL A-	10%
19	Electrosteel Castings Ltd	CRISIL A+	9.50%
20	Bajaj Steel Industries Ltd	CRISIL A stable	9.60%
21	Usha Martin Ltd	CRISIL AA-	9.40%
22	Prakash Steelage Ltd	CRISIL BBB	10.50%
23	Rathi Bars Ltd	CRISIL BBB	10.50%
24	Mishra dhatu nigam Ltd	CRISIL AA-	9.80%
25	Gallantt Ispat Ltd.	CRISIL AA-	9.40%

### Calculation of weights

The weights were calculated from the financial statements of the company. The formula for weights is given as:

Weight of debt = debt amount / (equity + debt)

Weight of equity = equity amount / (equity + debt)

S.NO	Company Name	Total Debt	Total Equity	Debt Weight	Equity Weight
1	Tata Steel Ltd.	36524.51	125433.76	0.22551803	0.77448197
2	Steel Authority of India Ltd	17284.1	52017.14	0.24940535	0.75059465
3	JSW Steel Ltd	53186	63501	0.45580056	0.54419944
4	Jindal steel and Power Ltd	13917.79	40360.48	0.256415505	0.743584495
5	APL Apollo Tubes Ltd	388.62	1745.09	0.182133467	0.817866533
6	Hindalco Industries Ltd	19421	54428	0.262982573	0.737017427
7	Jindal Stainless Ltd	2864.29	4935.42	0.36723032	0.63276968
8	Jindal Saw Ltd	4343.43	7489.05	0.367076893	0.632923107
9	Shah Alloys Ltd	116.9	57.51	0.670259733	0.329740267
10	Sunflag Iron and Steel company Ltd	582.48	1736.24	0.251207563	0.748792437
11	Kamdhenu Ltd	93.65	218.14	0.300362423	0.699637577
12	Lloyds Steels Industries Ltd	25.75	135.24	0.159947823	0.840052177
13	Garg Furnace Ltd	10.27	14.73	0.4108	0.5892
14	Panchmahal Steel Ltd	28.21	159.96	0.149917628	0.850082372
15	Rama Steel Tubes Ltd	118.01	98.13	0.545988711	0.454011289
16	Zenith Steel Pipes and Industries Ltd	223.66	142.28	0.611193092	0.388806908
17	Manaksia Steels Ltd	8.4	257.46	0.031595577	0.968404423
18	Kanishk Steel Industries	18.31	85.27	0.176771578	0.823228422
19	Electrosteel Castings Ltd	2728.74	3987.43	0.406294063	0.593705937
20	Bajaj Steel Industries Ltd	63.66	190.96	0.250019637	0.749980363
21	Usha Martin Ltd	163.79	927.52	0.150085677	0.849914323
22	Prakash Steelage Ltd	33.96	17.5	0.659930043	0.340069957
23	Rathi Bars Ltd	64.96	87.77	0.425325738	0.574674262
24	Mishra dhatu nigam Ltd	267.58	1190.72	0.183487623	0.816512377
25	Gallantt Ispat Ltd.	386.56	2083.12	0.156522302	0.843477698

### Calculation of WACC

The WACC is calculated using the formula

WACC = (cost of debt \* weight of debt) + (cost of equity \* weight of equity)

The calculation of WACC is shown as:

S.NO	Company Name	Total Debt	Total Equity	Cost Of Debt	Cost Of Equity	Debt Weight	Equity Weight	WACC
1	Tata Steel Ltd.	36524.51	125433.76	8.20%	22.48%	0.22551803	0.77448197	19.26%

2	Steel Authority of India Ltd	17284.1	52017.14	9.20%	25.41%	0.24940535	0.75059465	21.37%
3	JSW Steel Ltd	53186	63501	10.45%	21.68%	0.45580056	0.54419944	16.56%
4	Jindal steel and Power Ltd	13917.79	40360.48	9.50%	23.95%	0.256415505	0.743584495	20.24%
5	APL Apollo Tubes Ltd	388.62	1745.09	8.80%	16.11%	0.182133467	0.817866533	14.78%
6	Hindalco Industries Ltd	19421	54428	7.50%	20.31%	0.262982573	0.737017427	16.94%
7	Jindal Stainless Ltd	2864.29	4935.42	9.80%	25.20%	0.36723032	0.63276968	19.54%
8	Jindal Saw Ltd	4343.43	7489.05	11.15%	20.31%	0.367076893	0.632923107	16.95%
9	Shah Alloys Ltd	116.9	57.51	10.50%	5.98%	0.670259733	0.329740267	9.01%
10	Sunflag Iron and Steel company Ltd	582.48	1736.24	10.35%	24.30%	0.251207563	0.748792437	20.80%
11	Kamdhenu Ltd	93.65	218.14	10.36%	21.61%	0.300362423	0.699637577	18.23%
12	Lloyds Steels Industries Ltd	25.75	135.24	10.90%	11.72%	0.159947823	0.840052177	11.59%
13	Garg Furnace Ltd	10.27	14.73	11.20%	3.92%	0.4108	0.5892	6.91%
14	Panchmahal Steel Ltd	28.21	159.96	10.90%	17.24%	0.149917628	0.850082372	16.29%
15	Rama Steel Tubes Ltd	118.01	98.13	10.80%	18.16%	0.545988711	0.454011289	14.14%
16	Zenith Steel Pipes and Industries Ltd	223.66	142.28	11.50%	6.70%	0.611193092	0.388806908	9.63%
17	Manaksia Steels Ltd	8.4	257.46	9.40%	22.81%	0.031595577	0.968404423	22.39%
18	Kanishk Steel Industries	18.31	85.27	10.00%	6.16%	0.176771578	0.823228422	6.84%
19	Electrosteel Castings Ltd	2728.74	3987.43	9.50%	20.26%	0.406294063	0.593705937	15.89%
20	Bajaj Steel Industries Ltd	63.66	190.96	9.60%	20.65%	0.250019637	0.749980363	17.89%
21	Usha Martin Ltd	163.79	927.52	9.40%	21.37%	0.150085677	0.849914323	19.57%
22	Prakash Steelage Ltd	33.96	17.5	10.50%	12.11%	0.659930043	0.340069957	11.05%
23	Rathi Bars Ltd	64.96	87.77	10.50%	22.95%	0.425325738	0.574674262	17.65%
24	Mishra dhatu nigam Ltd	267.58	1190.72	9.80%	13.95%	0.183487623	0.816512377	13.19%
25	Gallantt Ispat Ltd.	386.56	2083.12	9.40%	19.81%	0.156522302	0.843477698	18.18%

**Calculation of the profitability measure (net profit ratio)**

The net profit ratio is calculated using the formula:

Net profit ratio = net profit after tax / net sales

The net profit ratio calculation for all the companies is as shown

S.NO	Company Name	NPAT	NET SALES	NET PROFIT RATIO
1	Tata Steel Ltd.	33037.4	129021.35	25.61%
2	Steel Authority of India Ltd	12295.99	103473.32	11.88%
3	JSW Steel Ltd	17231.81	118820	14.50%
4	Jindal steel and Power Ltd	8530.84	49511.53	17.23%
5	APL Apollo Tubes Ltd	287.47	9062.4	3.17%
6	Hindalco Industries Ltd	5437.32	67653	8.04%
7	Jindal Stainless Ltd	1673.78	20311.94	8.24%
8	Jindal Saw Ltd	411.1	11022.27	3.73%
9	Shah Alloys Ltd	102.86	880.08	11.69%
10	Sunflag Iron and Steel company Ltd	216.4	2717.91	7.96%
11	Kamdhenu Ltd	30.43	840.76	3.62%
12	Lloyds Steels Industries Ltd	5.95	50.1	11.88%
13	Garg Furnace Ltd	6.32	178.6	3.54%
14	Panchmahal Steel Ltd	56.59	573.6	9.87%
15	Rama Steel Tubes Ltd	10.49	517.32	2.03%
16	Zenith Steel Pipes and Industries Ltd	7.96	146.17	5.45%
17	Manaksia Steels Ltd	27.81	504.52	5.51%
18	Kanishk Steel Industries	24.69	314.19	7.86%
19	Electrosteel Castings Ltd	323.01	5014.83	6.44%
20	Bajaj Steel Industries Ltd	32.51	412.31	7.88%
21	Usha Martin Ltd	185.49	1810.05	10.25%
22	Prakash Steelage Ltd	41.91	214.2	19.57%
23	Rathi Bars Ltd	2.85	493.84	0.58%
24	Mishra dhatu nigam Ltd	176.31	859.49	20.51%
25	Gallantt Ispat Ltd.	168.84	3017.38	5.60%

### Analysis of the data

The analysis of the data is done using the linear regression model. The linear regression model is applied between the WACC and the net profit ratios of all the companies.

Sno.	Company name	NET PROFIT RATIO	WACC
1	Tata Steel Ltd.	25.61%	19.26%
2	Steel Authority of India Ltd	11.88%	21.37%
3	JSW Steel Ltd	14.50%	16.56%
4	Jindal steel and Power Ltd	17.23%	20.24%
5	APL Apollo Tubes Ltd	3.17%	14.78%
6	Hindalco Industries Ltd	8.04%	16.94%
7	Jindal Stainless Ltd	8.24%	19.54%
8	Jindal Saw Ltd	3.73%	16.95%
9	Shah Alloys Ltd	11.69%	9.01%
10	Sunflag Iron and Steel company Ltd	7.96%	20.80%
11	Kamdhenu Ltd	3.62%	18.23%
12	Lloyds Steels Industries Ltd	11.88%	11.59%
13	Garg Furnace Ltd	3.54%	6.91%
14	Panchmahal Steel Ltd	9.87%	16.29%
15	Rama Steel Tubes Ltd	2.03%	14.14%
16	Zenith Steel Pipes and Industries Ltd	5.45%	9.63%
17	Manaksia Steels Ltd	5.51%	22.39%
18	Kanishk Steel Industries	7.86%	6.84%
19	Electrosteel Castings Ltd	6.44%	15.89%
20	Bajaj Steel Industries Ltd	7.88%	17.89%
21	Usha Martin Ltd	10.25%	19.57%
22	Prakash Steelage Ltd	19.57%	11.05%
23	Rathi Bars Ltd	0.58%	17.65%
24	Mishra dhatu nigam Ltd	20.51%	13.19%
25	Gallantt Ispat Ltd.	5.60%	18.18%

### VI. Findings and the Hypothesis testing

The above regression model results need to be evaluated and analysed to understand the findings of this research.

In the above model:

Multiple R:

The multiple R represents the correlation coefficient between the two variables.

Here the value of the correlation coefficient comes out to be 0.044326. This value is very close to zero.

Correlation coefficient of the value 1 represents the completely positive relationship whereas the correlation coefficient of -1 represents the completely negative relationship.

But a correlation coefficient of 0 represents the no significant relationship between the two variables.

Also

R square:

R square in the above model represents the number of data points that lie on the best fit line.

Such a low value of 0.0019 represents that nearly no points lie on the best fit line.

This shows that there is no significant relationship between the two variables.

Hypotheses Testing:

The null hypotheses said that there exist no significant relationship between the profitability of the company and the capital structure of the company in the steel industry.

Since, the findings show that there exist no significant relationship between the two variables, hence the null hypotheses is correct.

### VII. Conclusion:

From the above findings and interpretations, it can be concluded that the cost of capital, hence the capital structure is not the sole and significant variable to affect the profitability of the company greatly and hence, other variables need to be considered for measuring the factors that affect the profitability of the steel companies.

### **VIII. Suggestions and Recommendations**

From the above findings it is clear that capital structure is not a sole significant factor that can determine the profitability of the company. Numerous factors may have an impact on the profitability of steel firms in India. Here are some important elements that might have a big impact:

- 1) **Steel Prices:** The financial success of steel firms is directly impacted by steel prices. Revenue and profit margins may be affected by fluctuations in steel prices, which are impacted by global dynamics of supply and demand. While lower prices might strain profits, higher prices often enhance profitability.
- 2) **Costs of electricity and raw materials (iron ore, coal, and scrap metal)** have a big influence on how profitable steel firms are. Price changes for these inputs may have an impact on production costs and, in turn, profitability. Companies with a competitive edge may be able to efficiently control and optimise input costs.
- 3) **Utilisation of Capacity:** The efficient use of available production resources is essential to profitability. Companies can spread fixed costs across a greater production volume thanks to higher capacity utilisation, which boosts profitability. Lower profitability and underutilization of resources may be the results of operating at lower capacity levels.
- 4) **Operational Efficiency:** Profitability may be increased through optimising supplier networks, production processes, and cost management. Businesses that can cut down on waste, increase productivity, and lower operating expenses will probably be more profitable than their rivals.
- 5) **Market Demand and Competition:** The profitability of steel firms is influenced by demand for steel products on both domestic and international markets. Stronger pricing power and more profitability might result from greater demand and little to no competition. On the other hand, a surplus of products, fierce rivalry, or a recession can have a detrimental effect on profitability.
- 6) **Government Policies and Regulations:** The profitability of steel firms can be impacted by government policies and regulations. Costs, market dynamics, and profitability may be affected by elements including import/export taxes, environmental restrictions, infrastructure investments, and steel industry incentives.
- 7) **Exchange rates:** Steel businesses in India frequently conduct business abroad. Currency exchange rate fluctuations can impact overall profitability, the cost of importing raw materials, and the competitiveness of exports. Although currency depreciation may promote export market competitiveness, it also raises the price of imported inputs.
- 8) **technology Innovation:** Adopting technology innovation and developments may increase operational effectiveness, cut costs, and boost profitability. Businesses who make investments in automating their production processes, introducing digital solutions, and modernising their production processes may gain a competitive advantage.
- 9) **Debt and Financial Structure:** Profitability may be impacted by the amount of debt and the cost of financing. Increased interest costs caused by excessive amounts of debt and interest payments might reduce profitability. Profitability depends on maintaining a healthy debt-to-equity ratio and handling financial commitments well.
- 10) **Economic Conditions:** The general state of the economy, both domestically and internationally, can have an impact on steel demand, price, and profitability. The profitability of steel enterprises is greatly influenced by variables including GDP growth, infrastructure development, building activity, and industrial output levels.

It's vital to remember that the relative weight and influence of these characteristics might change over time and amongst different steel industry businesses. Profitability can also be influenced by a company's unique strategy, market positioning, and management choices.

### **Bibliography**

- [1]. Yahoofinance.Com
- [2]. Nseindia.Com
- [3]. Capitalline.Com
- [4]. Choudhury, A., & Chakraborty, A. (2018). Impact Of Capital Structure On Firm Performance: A Study Of Indian Steel Industry. *International Journal Of Applied Financial Management Perspectives*, 7(2), 59-74.
- [5]. Gupta, A., & Gupta, D. (2017). Capital Structure And Firm Performance: Evidence From The Indian Steel Industry. *Global Journal Of Finance And Management*, 9(2), 81-94.
- [6]. Haldar, S., & Chakraborty, S. (2016). Impact Of Capital Structure On Profitability: An Empirical Study Of Indian Steel Companies. *International Journal Of Engineering Technology Science And Research*, 3(5), 546-552.
- [7]. Kumari, A., & Jain, M. (2017). Impact Of Capital Structure On Profitability: A Study Of Steel Sector In India. *International Journal Of Engineering, Applied And Management Sciences Paradigms*, 42-47
- [8]. Kaur, H., & Jaiswal, S. (2018). Capital Structure And Profitability: A Study Of Selected Steel Companies In India. *International Journal Of Research In Finance And Marketing*, 8(5), 71-79.
- [9]. Singh, S., & Kaur, S. (2019). Capital Structure And Firm Performance: Evidence From Indian Steel Industry. *International Journal Of Mechanical Engineering And Technology*, 10(3), 569-579.
- [10]. Kumar, P., & Kumar, R. (2017). Capital Structure And Firm Performance: A Study Of Selected Steel Companies In India. *International Journal Of Research In Economics And Social Sciences*, 7(8), 163-177.
- [11]. Agarwal, A. (2016). Impact Of Capital Structure On Profitability: A Study Of Steel Companies In India. *International Journal Of Business And Administration Research Review*, 2(3), 74-79.