



# A STUDY ON PATTERN AND TREND OF CAPITAL STRUCTURE OF STEEL COMPANIES IN INDIA

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## Abstract

Capital structure is important part of the financial decision-making. It is a conjunction of equity and debt capital. The Pecuniary decision makers of company want to earn maximum return and enhance the wealth firm. So, the financial manager decides an optimum capital structure to achieve the objective of maximum return and wealth. This research work study the pattern and trend of capital structure of NSE listed companies of Indian steel industry. Out of all NSE listed steel companies, the five leading steel companies selected as sample based on Market Capitalization. The financial accounts are the source of the secondary data provided in the sampled company's annual reports covering the ten-year period from 2013–14 to 2022–23. The statistical tools used to analyze the available data are frequency, average, and trend using MS-Excel. The findings reveal that the highest average equity capital was found of the SAIL (Rs. 4130.53 crores) and lowest of the APL Appollo company (Rs. 29.69 crores). Whereas, the highest average debt was found of the JSW steel (Rs. 32972.12 crores) during the study period. The study concludes that which steel company used an appropriate mixture of debt and equity funds in your capital structure that earn a high rate of return.

**Keywords: Capital Structure, Equity, Debt, Pattern, Trend etc.**

## 1. Introduction of Capital Structure

Capital structure is a fundamental aspect of financial management that plays a pivotal role in shaping the financial health and stability of a company. It refers to the composition of a firm's total capital, encompassing both equity and debt, and the way these sources are utilized to finance its operations and growth initiatives. Optimizing a company's cost of capital, risk profile, and overall financial performance requires finding the ideal balance between debt and equity. The capital structure decisions of a company are influenced by various factors, including its size, industry, growth prospects, and risk tolerance. Understanding the dynamics of capital structure is essential for corporate leaders, financial managers, and investors, as it directly impacts the firm's ability to generate returns for shareholders while managing financial risks effectively. In essence, capital structure reflects the mix of long-term financing sources that a company employs to meet its capital needs. Equity represents ownership in the company, and shareholders bear the associated risks and rewards. On the other hand, debt involves borrowing funds, typically with an obligation to repay principal and interest. The interplay between these two components shapes a company's financial structure and has implications for its cost of capital, financial flexibility, and resilience in challenging economic conditions. As businesses navigate the complexities of today's global markets, understanding and strategically managing their capital structure is imperative for achieving sustainable growth, maximizing shareholder value, and maintaining financial stability. This introductory exploration sets the stage for a deeper understanding of the intricacies involved in making informed capital structure decisions, providing a foundation for effective financial management.

### 1.1 Capital Structure Pattern

Capital structure refers to the mix of different sources of long-term funding that a company uses to finance its operations and investments. The capital structure pattern outlines the composition of these sources, detailing the proportion of equity and debt that constitute a company's overall capitalization. It is a crucial aspect of financial management, as the choice of capital structure can have significant implications for the company's risk profile, cost of capital, and overall financial performance.

Here's a breakdown of the components commonly found in capital structure patterns:

#### a) Equity Shares:

**Ownership Stake:** Equity shares represent ownership in the company. Shareholders who own equity shares become partial owners and are entitled to a share of the company's profits. **Voting Rights:** Equity shareholders typically have voting rights in major corporate decisions, allowing them to influence company policies.

#### b) Debt:

**Borrowed Capital:** Debt in the form of loans or bonds represents funds borrowed by the company. Unlike equity, debt comes with an obligation to repay the borrowed amount along with periodic interest payments. **Fixed Commitments:** Debt carries fixed interest obligations, providing a predictable cost of capital. However, failure to meet these obligations can lead to financial distress.

### c) Preference Shares:

Hybrid Instrument: Preference shares combine features of both equity and debt. They offer shareholders certain preferences, such as priority in dividend payments and claims during liquidation, but without the same voting rights as common equity. Fixed Dividends: Preference shareholders receive fixed dividends before common equity shareholders, providing a measure of security. The capital structure pattern is dynamic and can vary from one company to another based on factors like industry norms, business risk, growth prospects, and the company's financial strategy. Striking the right balance between equity and debt is a strategic decision that management makes, taking into consideration the cost of capital, financial flexibility, and the desire to optimize the company's value for its shareholders.

An optimal capital structure aims to minimize the cost of capital while maintaining financial stability. However, achieving the right balance is a continuous process, as market conditions and the company's financial needs may evolve over time. The capital structure pattern ultimately reflects the company's approach to financing its activities and achieving its long-term financial objectives.

## 1.2 Steel industry

Steel is regarded as a fundamental cornerstone in the evolution of the modern economy. The consumption of steel is deemed a crucial gauge of a nation's socioeconomic advancement and the quality of life of its citizens. Playing a pivotal role in influencing the economic landscape of various sectors, the steel industry also plays a formative role in the early stages of development for these industries. India, ranking as the second-largest global producer of crude steel, recorded the production of 121.29 million metric tons (MT) of finished steel and 125.32 MT of crude steel in FY23. Projections for FY24 anticipate a steel production of 123–127 MT, signaling a 4-7% increase. This growth in the Indian steel industry is often attributed to factors such as affordable labor and the abundant availability of raw materials like iron ore.

The Indian steel industry boasts contemporaneous facilities, featuring steel mills that consistently strive for the ongoing modernization of existing plants and advancements towards higher energy efficiency levels. To conduct a detailed study, the research will focus on the top five companies within the steel industry, selected based on market capitalization as of April 1, 2023, from the pool of 58 steel companies listed on the National Stock Exchange (NSE). The analysis will span the performance period from 2013-2014 to 2022-23. The companies chosen for examination are listed below:

### a) Tata Steel

Tata Steel Limited, a major company of the Tata Group, stands as one of the global giants in steel industry. Established in 1907, Tata Steel has a rich legacy of over a century marked by innovation, sustainability, and a steadfast commitment to excellence. Headquartered in Mumbai, India, the company has evolved into a leading player in the international steel arena, with a formidable presence across diverse geographies.

**b) JSW Steel**

JSW Steel is a prominent player in the global steel industry, founded in 1982 as Jindal Iron and Steel Company, the company has undergone significant expansion and transformation to emerge as one of India's leading integrated steel producers. Headquartered in Mumbai, India, JSW Steel operates state-of-the-art manufacturing facilities strategically located across the country. A vast array of steel products are part of the company's varied product line, which serves a number of industries including manufacturing, construction, infrastructure, and automotive.

**c) SAIL**

The Steel Authority of India Limited (SAIL) stands as a prominent presence in the Indian steel industry, symbolizing resilience, innovation, and an unwavering dedication to excellence. Established in 1973, SAIL has been instrumental in shaping the nation's industrial landscape, making significant contributions to its economic progress. With its headquarters located in New Delhi, SAIL ranks among the largest steel producers in India, boasting a substantial legacy spanning numerous decades. SAIL's commitment to sustainable practices is apparent in its adoption of state-of-the-art technologies to enhance efficiency, minimize environmental impact, and ensure responsible resource management. The company's focus on corporate social responsibility underscores its role not just as an economic powerhouse but also as a conscientious corporate entity improving the quality of life in the areas where it conducts business.

**d) Jindal Steel & Power Limited**

In the Indian steel sector, Jindal Steel & Power Limited (JSPL) is a well-known participant, renowned for its robust presence and significant contributions to the country's economic landscape. Established by the visionary industrialist, Mr. Naveen Jindal, the company has emerged as a leading integrated steel manufacturer with a global footprint. With its headquarters in New Delhi, India, Jindal Steel has demonstrated resilience, innovation, and a commitment to excellence since its inception. The company's journey began in the early 2000s, and it has steadily grown to become a diversified conglomerate, encompassing various segments of the steel and power sectors. JSPL is known for its cutting-edge technology, sustainable practices, and a comprehensive portfolio that includes steel production, power generation, and mining operations.

**e) APL Apollo**

APL Apollo Tubes Limited, widely recognized as APL Apollo, stands as a trailblazing presence within the steel tube manufacturing sector. Established with a dedication to innovation and superior quality, APL Apollo has risen to prominence, establishing standards for excellence and technological progress. Specializing in the production of a varied range of steel tubes, the company serves diverse sectors such as construction, infrastructure, and engineering. Built upon the principles of integrity, customer-centricity, and an unwavering commitment to excellence, APL Apollo has consistently expanded its influence in the market. The company's persistent emphasis on research and development has empowered it to introduce state-of-the-art technologies and creative solutions, addressing the ever-changing needs of its clientele.

## 2. Review of Literature

**Nguyen et al. (2023)** The research investigation conducted an in-depth analysis to examine the relationship between the capital structure and financial performance of companies that are listed in Vietnam over a span of seven years, from 2012 to 2018. The primary focus was to understand how the composition of a company's capital, specifically the utilization of short-term loans, influenced its overall financial performance during this period.

**T. Manjunatha, Vikas K M. (2021).** investigated the funding strategies employed by infrastructure firms in India. A dataset encompassing financial information from 306 Indian companies across various sectors was utilized for analysis. The financing approaches of the sample companies were scrutinized using 20 distinct ratios. The study outcomes revealed that companies within the construction, steel, cement, and power sectors in India exhibited a preference for utilizing more debt, particularly short-term debt, to support both their assets and operations. Additionally, a noteworthy variance in the financing strategies among diverse infrastructure sectors was identified

**Rosario Shireen and Chavali Kavita (2019)** has investigated how capital structure affects profitability in the Indian hotel sector. The study examined secondary data obtained from the financial statements of 22 Indian hotel firms, which included their balance sheets and profit and loss accounts. The analysis covered the period from 2006 to 2017. Profitability was considered the dependent variable, whereas capital structure was considered the independent variable. The study's conclusions showed that capital ratios and earnings were positively correlated. Furthermore, there was a positive correlation between profitability ratios and the short-term debt ratio. On the other hand, there was a negative association between profitability and using more long-term debt.

**Basit and Hassan (2017)** Conducted research titled "Exploring the Impact of Capital Structure on Corporate Performance: An Analysis of Firms Listed on the Karachi Stock Exchange (KSE) in Pakistan." The investigation delved into the connection between capital structure (CS) and profitability. The study focused on 50 companies spanning sectors such as Chemical, Food, Cement, Pharmaceuticals, Automobile, and Textiles, gathering data over a 5-year period (2010 – 2014). Leverage was represented by the debt-equity ratio, and performance variables included ROA, ROE, EPS, Size, and Advertising & Marketing. The findings indicated a varied impact on Size and ROA due to debt-equity, while EPS, ROE, and Advertising & Marketing remained unaffected by capital structure variables.

**Gangadhar V. et. al., (2016)** studied the capital structure pattern of public sector enterprises in a research study focused on selected companies. The analysis employed trend analysis of the debt-equity ratio, utilizing a sample size of three refinery companies selected from a pool of 100 manufacturing companies over a 10-year period. Secondary data sourced from Annual Reports and the Capital Line database were utilized for the analysis. The findings indicated that these companies incorporated both debt and equity financing as integral components of their capital structure pattern. Furthermore, the study revealed an increasing trend in debt and equity financing within the refinery industry, suggesting that companies within this sector are leveraging debt financing to its maximum extent, potentially as a precautionary measure against financial risk.



**M Sekara et.al., (2014)** investigated the influence of capital structure on Tata Motors Limited's EBIT-EPS analysis, assessing the company's performance from the fiscal year 2003–2004 to 2012–2013. The findings revealed that the debt equity ratio exhibited an increase corresponding to the rise in net worth and debt levels. Moreover, the study observed a growth in the company's net value throughout the research period. Notably, there was a decrease in debt capital between 2010 and 2011 due to debt swaps and repayments. Additionally, the weighted average cost of capital (WACC) of the company experienced variations over the years.

**Vincent Konadu Tawiah (2014)** attempted to analyze the capital structure patterns of companies in Ghana and India, this study aimed to discern trends in their financial structures. To achieve this goal, the researcher gathered data over a five-year period from 20 listed companies in both countries. The analysis employed a trend analysis of the debt-percentage to total capital structure. The findings indicated that, in comparison to companies in India, those in Ghana exhibited a lower reliance on debt financing in their capital structure patterns.

### 3. Objectives

The objective of the present research work is to analyse the pattern and trend of capital structure of NSE listed Steel Companies.

### 4. Research Methodology

The present research work focus on analyse the pattern and trend of capital structure of NSE listed steel companies in India. Out of all 58 NSE listed steel companies, the five leading steel companies selected as sample based on Market Capitalization to fulfill the study's objectives such as- **1. Tata Steel 2. JSW Steel 3. Jindal Steel 4. SAIL 5. APL Apollo**. For this purpose, the secondary data are collected from the annual reports of each company for the period of ten years from 2013-14 to 2022-23. The statistical tools used to analyze the available data are frequency, average, and trend using MS-Excel.

#### 4.1 Data Analysis and Interpretation

This study is mainly focused the issue of pattern and trend of capital structure of five sampled NSE listed cement companies. The study's secondary data, which includes a subset of factors gathered throughout a ten-year period from 2013–14 to 2022–23. The variables of capital structure are equity and debt in present research work. The analysis of data and interpretation of results are followings:

Years	Steel Companies <span style="float: right;">(Amt. in Crores)</span>									
	TATA STEEL		JSW		SAIL		JINDAL		APL	
	Equity	Debt	Equity	Debt	Equity	Debt	Equity	Debt	Equity	Debt
<b>2013-14</b>	971.41	23808.09	1067.19	21,054.32	4,130.53	13,632.22	91.49	13,520.78	23.44	93.94
<b>2014-15</b>	971.41	23900.37	1067.19	25,496.89	4,130.53	14,025.56	91.49	18,507.42	23.44	83.6
<b>2015-16</b>	971.41	23457.77	939.68	29,506.03	4,130.53	17,495.71	91.49	16,411.57	23.44	142.73
<b>2016-17</b>	971.41	24694.37	301	28,358.00	4,130.53	19,087.48	91.5	16,403.88	23.59	97.8

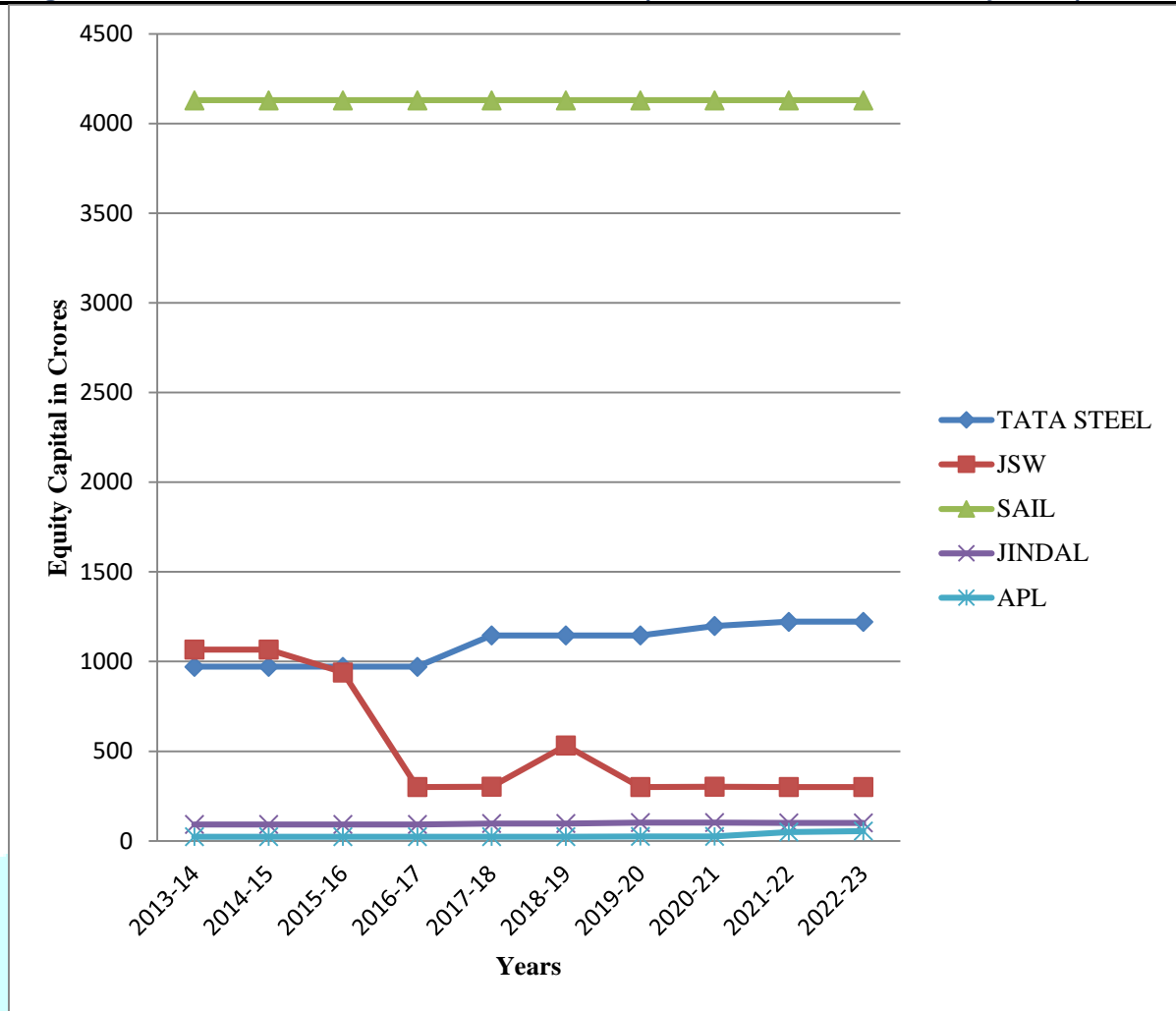
<b>2017-18</b>	1146.1 2	24568. 95	302	29,551. 00	4,130. 53	29,777. 16	96.79	14,411. 05	23.73	75
<b>2018-19</b>	1146.1 2	26651. 19	532	27,435. 00	4,130. 53	30,802. 66	96.79	12,338. 00	23.85	139.9 3
<b>2019-20</b>	1146.1 3	31381. 96	301	39,247. 00	4,130. 53	34,560. 03	102	12,029. 62	24.87	245.2 9
<b>2020-21</b>	1198.7 8	31545. 41	302	39,551. 00	4,130. 53	19,725. 96	102	13,959. 75	24.98	224.4 8
<b>2021-22</b>	1222.3 7	20290. 81	301	41,176. 00	4,130. 53	8,135.8 1	101.0 7	8,364.9 5	50.06	172.4
<b>2022-23</b>	1222.4	30880. 89	301	48,346. 00	4,130. 53	6,112.5 8	100.5	7,081.7 5	55.47	64.62
<b>Average</b>	<b>1096.7 6</b>	<b>26117. 98</b>	<b>541.41</b>	<b>32972. 12</b>	<b>4130.5 3</b>	<b>19335. 52</b>	<b>96.51</b>	<b>13302.8 8</b>	<b>29.69</b>	<b>133.9 8</b>

Table-1

### Pattern and trend of Capital Structure of Steel Companies

Source of data collected for calculation of above is annual reports of companies listed in NSE. Table-1 indicates the pattern and trend of capital structure of sampled steel companies in India during the study period from 2013-14 to 2022-23. It is clear from the above table that steel companies used the equity and debt pattern of capital structure. In case of Tata steel, the equity capital increased from Rs. 971.41 crore to Rs. 1222.4 crore during the study period. Whereas, the debt Rs. 23808.09 crore. According to the analysis the equity capital of JSW steel was decreased from 1067.19 crore to 301 crore and debt was increased from 21054.32 to 48346 crore. In case of SAIL, the equity capital was found stable of Rs. 4130.53 crore from the period 2013-14 to 2022-23. But, debt was increased continuously from 13632.22 crore (2013-14) to 34560.03 crore (2019-20). After the year 2019-20, the SAIL continuously decreased up to 6112.58 crore in year 2022-23. The equity capital of Jindal Steel was increased from 91.49 crore in 2013-14 to 102 crores in 2019-20 and after that equity capital decreased up to 100.5 crores in 2022-23. Jindal Steel reduced the debt in 2013-14 from 13520.78 crores to 7081.75 crores in 2022-2023. In case of APL Appollo, the equity capital was increased from 23.44 crores to 55.47 crores during the period 2013-14 to 2022-23. The debt of APL Appollo was increased from 93.94 crores in 2013-14 to 245.29 crores in 2019-20. But, this company reduced our debt up to 64.62 crores in next two years.

The highest average equity was found of the SAIL (Rs. 4130.53 crores) and lowest of the APL Appollo company (Rs. 29.69 crores). Whereas, the highest average debt was found of the JSW steel (Rs. 32972.12 crores) during the study period

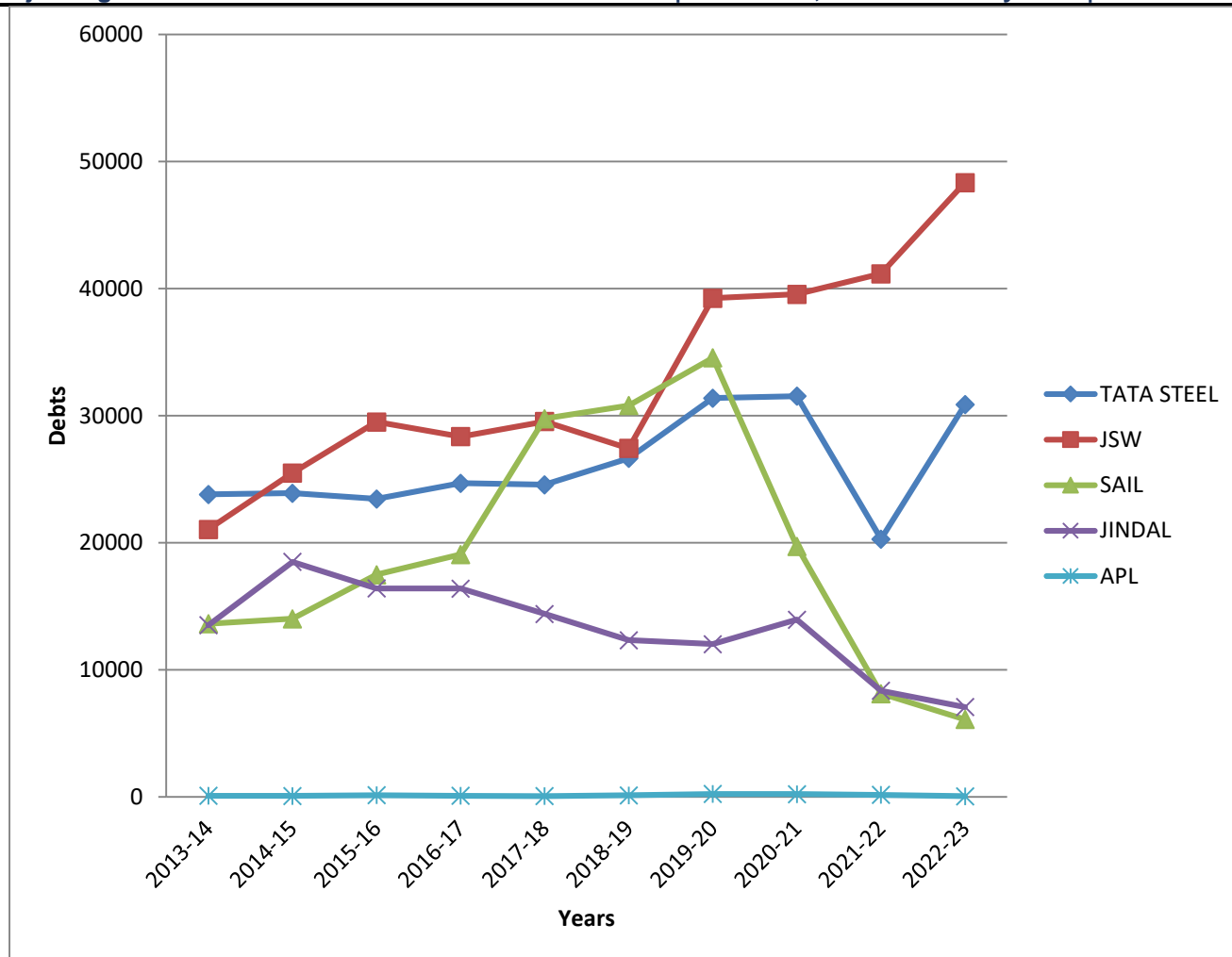


**Figure-1**

**Showing the trend of Equity Capital of Sampled Indian Steel Companies**

Figure-1 shows that the trend of equity capital of five sampled steel companies during the period 2013-14 to 2022-23. The above figure presents the upward trend in equity capital of Tata Steel and APL Appollo companies. The downward trend noticed in the equity capital of JSW steel. In case of SAIL, the trend of equity capital was found stable. Whereas, the fluctuating trend was found in equity capital of Jindal Steel.





**Figure-2**

### Showing the trend of Debts of Sampled Indian Steel Companies

Figure-2 shows that the trend of debt capital of five sampled steel companies during the period 2013-14 to 2022-23. The above figure presents the upward trend in debt capital of Tata Steel and JSW Steel. Whereas, the fluctuating trends was found in debt capital of Jindal Steel, SAIL and APL Appollo.

## 5. Conclusion

Capital structure is the main concept in the areas of financial decision-making. This research study analyse the pattern and trend of capital structure of NSE listed companies of Indian steel industry. The findings reveal that the highest average equity capital was found of the SAIL (Rs. 4130.53 crores) and lowest of the APL Appollo company (Rs. 29.69 crores). Whereas, the highest average debt was found of the JSW steel (Rs. 32972.12 crores) during the study period. The study concludes that which steel company used a appropriate mixture of debt and equity funds in your capital structure that earn a high rate of return. The present study also concludes that the SAIL, Jindal steel and APL Appollo companies focused on reducing the debts in last some years. But, Large steel companies were increased the debts continuously. The results of the present study provide the trend of debt and equity to the stakeholder such as investors to enhance their investment in steel industry.

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