



A Study on Comparative Analysis of Strategic Practices and Competitive Advantage Among Leading Indian Steel Companies

"SUBHAM KUMAR", supervisor "Dr. NARAYANA B"

How to Cite this Article:

KUMAR, S. (2026). A Study on Comparative Analysis of Strategic Practices and Competitive Advantage Among Leading Indian Steel Companies. International Journal of Creative and Open Research in Engineering and Management, 2(10), 1-9.
<https://doi.org/10.55041/ijcope.v2i10.077>

License:

This article is published under the terms of the Creative Commons Attribution 4.0 International License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author(s) and the source are credited.

© The Author(s). Published by International Journal of Creative and Open Research in Engineering and Management.



<https://doi.org/10.55041/ijcope.v2i10.077>

Abstract

The Indian steel industry is the second-largest producer of crude steel in the world yet its leading firms are operated during volatile raw-material and product prices, rising import penetration, and a costly shift to low-carbon production. Their competitive performance and financial strength show wide variation, and the literature provides little integrated, firm-level evidence on which strategic practices sustain competitive advantage. This study compares the five leading Indian integrated producers, Tata Steel, JSW Steel, SAIL, JSPL, and ArcelorMittal Nippon Steel India (AM/NS India), from FY2021-22 to FY2024-25. Using audited annual and integrated reports, Business Responsibility and Sustainability Reports, and data from the Ministry of Steel, this paper applies five converging techniques: uniform financial ratio analysis, a weighted composite benchmarking scorecard, SWOT analysis, cost-benefit analysis, and coordinate positioning. The findings show that the largest producers are not the most profitable. JSPL, the smallest listed firm, records the highest margins and the lowest leverage and leads the composite scorecard while Tata Steel and JSW Steel, the scale leaders, rank behind it. Competitive advantage in the sector is associated with cost discipline, balance-sheet conservatism, working-capital efficiency, and captive raw-material integration rather than scale alone. The paper provides firm-specific recommendations and sets out directions for further research.

Keywords: *competitive advantage; strategic practices; Indian steel industry; financial ratio analysis; performance benchmarking; strategic positioning*

1. Introduction

For most of its history, the steel industry has been dominated by large integrated producers that converted iron ore and coal into the steel used across infrastructure, transport, energy, and defence. As steel was broadly a commodity, firms competed primarily on scale and cost and the producer that could secure the largest volumes at the lowest cost was usually the strongest. That environment is changing. Although scale and cost still matter, a firm's competitive standing now also depends on the breadth of its product portfolio, its captive resource base, its carbon footprint, and the conservatism of its balance sheet. Porter (1985) argued that a firm gains advantage through cost leadership or differentiation, and Grant (2022) adds that a coherent strategy matched to a firm's resources sustains advantage over time.

These shifts are critical in India because the leading producers face the same prices and policies yet record very different results. Some sustain steady profits while others struggle, pointing to the value of analysing strategy in a way that integrates financial, operational, and environmental factors. This is the aim of the present study that compares the strategic practices and competitive positions of the five largest steel producers in India: Tata Steel, JSW Steel, SAIL, JSPL, and AM/NS India. These firms span the range of ownership and posture from a diversified private multinational to an aggressive domestic scale-builder, a public-sector Maharatna, a lean value player, and a globally owned joint venture.

The Indian setting also differs from that of mature steel markets in its cost structure, its reliance on captive resources, its import exposure, and the pace of its capacity growth. Output rose from about 103.5 million tonnes in FY2020-21 to roughly 152 million tonnes in FY2024-25 yet rising imports and softening prices have compressed margins, so firms pursue their strategies under genuine stress. Benchmarks from Western producers cannot simply assumed to hold here, so this is one reason an India-specific, firm-level comparison across the most recent years is needed.



The study is guided by three research questions:

What are the key strategic practices adopted by the leading Indian steel companies in pursuit of competitive advantage?

How do these practices affect their competitive advantage?

Which practices have the most significant influence on it?

By treating cost and operational efficiency, differentiation, raw-material integration, growth, decarbonisation, and capital-structure discipline as the main strategic practices, and expressing competitive advantage in terms of profitability, solvency, liquidity, efficiency, and strategic positioning, this paper attempts to address them.

2. Literature Review

The reviewed evidence can be organised around four propositions, derived from studies of the Indian and international steel industry together with the theoretical work that frames them.

First, competitiveness in Indian steel rests on more than size. Work from the liberalisation era onward shows the sector growing and restructuring while reporting that returns are driven by cost and the price cycle rather than by scale, so larger plants are not automatically more efficient or more profitable (Burange & Yamini, 2010; Kumar, 2021; Sebastian, n.d.). Sebastian's data-envelopment study finds variable returns to scale, namely efficiency is not rising automatically with size, a result directly relevant to a small but efficient producer competing against larger firms.

Second, the leading firms differ from one another in ways that are real and persistent. Comparative financial studies, several covering Tata Steel, JSW Steel, SAIL, and JSPL together, repeatedly find significant differences in profitability, solvency, and liquidity shaped by ownership and the point in the cycle (Singla, 2015; Shukla et al., 2021; Pal et al., 2025; Sukanya, 2026). Several of the strongest comparisons substitute a firm such as Bhushan Steel for JSPL or rest on windows that end before FY2021-22, limiting their relevance to the current period.

Third, financial outcomes are governed less by scale than by balance-sheet and working-capital discipline. Lower leverage and tighter cash-conversion cycles accompany stronger and steadier returns, and distress models point to leverage and liquidity as the markers of resilience (Banerjee, 2018; Garg & Singh, 2023; Bannigol, 2022). Banerjee (2018) finds that capital-structure choices significantly affect performance and higher leverage raises financial risk while Garg and Singh (2023) link shorter cash-conversion cycles to higher profitability.

Fourth, non-financial and forward-looking practices increasingly shape competitiveness. Environmental, social, and governance practice and corporate social responsibility behave as strategic practices, with CSR positively related to profitability if not to market value, while digital capability, supply-chain management, and decarbonisation have become newer competitive levers (Dutta, 2025; Kaur & Singh, 2020; PwC India, 2019; IEEFA, 2023; Saha & Mandal, 2025; Johnson et al., 2023). The strategic reading of these practices is anchored in the resource-based view and Porter's positioning theory (Tanwar, 2013) while the international evidence shows Indian firms expanding abroad for reputation and scale at the cost of debt and integration strain, as in the analysis of Tata Steel's acquisition of Corus (Manoj Kumara & Satyanarayana, 2013; Özcan et al., 2018).

What the literature does not establish is the combined financial and strategic standing of all the leading firms together for the most recent period. Most studies examine one or two firms, apply a single technique, rest on windows ending before FY2021-22, or substitute another company for JSPL, and few bring the financial and strategic dimensions together for the same firms or include the unlisted AM/NS India. Three gaps follow: a lack of comparison across all the leading firms, a lack of recent India-specific integrated evidence, and a lack of analysis that treats competitive advantage as a multidimensional outcome not examining one dimension at a time. This study addresses all three by comparing the five leading firms across FY2021-22 to FY2024-25 using five techniques together.

3. Methodology

3.1 Research design

The study uses a comparative, descriptive, and quantitative multiple-case design based on secondary data. The design is suited to the research because it uses audited and publicly available financial and strategic information for the selected companies and analyses the relationships and differences between them. The approach is longitudinal since performance



is measured across four financial years rather than at a single point and it builds on the precedent of ratio-based, secondary-data studies of Indian steel (Singla, 2015; Gnanaprakasam, 2023; Pal et al., 2025).

3.2 Sample and coverage

Sampling is non-probability purposive (judgement) sampling applied as a census of the leading segment rather than a random subset. The target population is the set of leading integrated (primary-route) steel producers in India, and the sampling frame is the list of integrated producers ranked by installed capacity and crude steel output as published by the Ministry of Steel and the companies' own reports. Five firms were selected on this basis. Their combined India crude steel capacity is about 98.9 MTPA against a national installed capacity of roughly 198.5 MTPA in FY2024-25, a coverage ratio of about 49.8 per cent of all installed capacity and a clear majority of the large integrated segment that forms the target population.

Table 1. Selected companies and capacity coverage

Company	Ownership	India crude steel capacity (MTPA)
Tata Steel	Listed; Tata Group	26.1
JSW Steel	Listed; JSW Group	34.2
SAIL	Listed; Government (Maharatna)	20.0
JSPL	Listed; Jindal Steel & Power	9.6
AM/NS India	Unlisted JV; ArcelorMittal & Nippon Steel	9.0
Total		98.9
National installed capacity, FY2024-25		198.5
Coverage ratio		49.8%

Source: Company annual and integrated reports; Ministry of Steel for national installed capacity.

The design produces five firms over four financial years, giving 20 firm-year observations across six financial variables. Because the method is purposive and census-based, the results describe the leading integrated producers themselves rather than being generalised to every steel producer in India.

3.3 Data collection

Data sources comprise audited standalone and consolidated financial statements, integrated and annual reports, Business Responsibility and Sustainability Reports, and the Annual Reports of the Ministry of Steel. Collection involved three steps: extracting figures with their sources cited, placing the data on a common basis (consolidated figures for Tata Steel, JSW Steel, and JSPL; standalone for SAIL; entity data for AM/NS India) and recomputing all ratios from the primary figures. Where a figure is not disclosed, most often by the unlisted AM/NS India, the limitation is stated and no figure is estimated.

3.4 Analytical techniques

Five techniques are applied together so that each corroborates each other. Ratio analysis converts the audited figures into uniform profitability, liquidity, efficiency, and solvency measures computed on a like-for-like basis. Benchmarking rescales each FY2024-25 measure to a 0-to-100 range through min-max normalisation, groups the measures into five dimensions, and combines them into a composite using fixed weights: profitability 30 per cent, solvency 20 per cent, scale 20 per cent, liquidity 15 per cent, and efficiency 15 per cent. For a measure where higher is better, the normalised score is (value minus lowest) divided by (highest minus lowest) times 100; for a measure where lower is better, such as debt-equity, the numerator is (highest minus value). SWOT analysis arranges each firm's internal strengths and weaknesses and external opportunities and threats with every point tied to a figure or a disclosed fact. Cost-benefit analysis weighs the common strategic investment, large capacity expansion combined with decarbonisation, against each firm's financial capacity using disclosed capital outlays and abatement costs of about US\$9 per tonne of CO₂ for carbon-capture smelting and about US\$112 per tonne for green-hydrogen routes. Coordinate positioning plots each firm on two



axes built from the benchmarking scores, financial performance on the horizontal axis and strategic performance on the vertical.

3.5 Hypotheses and validity

Three descriptive hypotheses frame the comparison; namely that the five firms differ in mean EBITDA margin, net profit margin, and debt-equity ratio over the study period. They are evaluated through the descriptive statistics rather than an inferential test; a difference is treated as supported if the firms' mean values differ appreciably relative to their variability. Reliability is based on the exclusive use of audited public data with every figure traced to its source. Validity is enhanced by recomputing each ratio from primary figures using a single set of definitions and by triangulating across the five techniques, so that a conclusion drawn from the ratios is checked against the benchmarking, SWOT, and positioning results.

4. Results

4.1 Revenue and scale

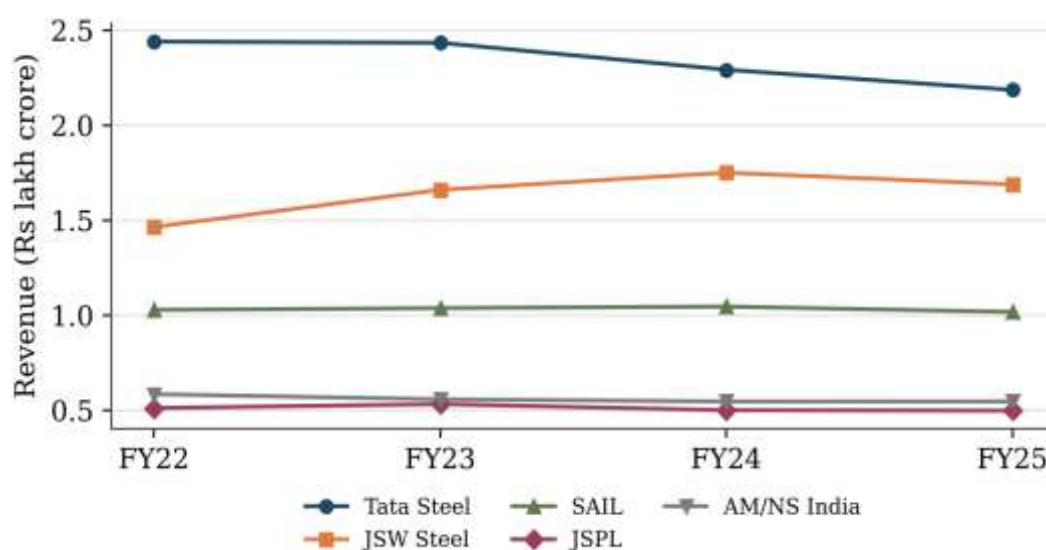
Table 2. Revenue from operations (Rs crore)

Company	FY22	FY23	FY24	FY25	CAGR
Tata Steel	2,43,959	2,43,353	2,29,171	2,18,543	-3.6%
JSW Steel	1,46,371	1,65,960	1,75,006	1,68,824	+4.9%
SAIL	1,02,805	1,03,729	1,04,545	1,01,716	-0.4%
JSPL	51,166	53,212	50,027	49,765	-0.9%
AM/NS India	58,440	55,748	54,605	54,613	-2.2%

Source: Ratio analysis from company reports.

Revenue falls into three levels. Tata Steel and JSW Steel form the top level yet their paths diverge: Tata Steel's group revenue fell from Rs 2,43,959 crore in FY2021-22 to Rs 2,18,543 crore in FY2024-25, a CAGR of about -3.6 per cent driven by the weak European business, while JSW Steel grew from Rs 1,46,371 crore to Rs 1,68,824 crore at a CAGR of 4.9 per cent on the back of capacity additions. SAIL forms the middle level with flat revenue near Rs 1.0 lakh crore, and JSPL and AM/NS India form the third level at about Rs 0.5 lakh crore each.

Figure 1. Revenue from operations, FY2021-22 to FY2024-25



4.2 Profitability

Profitability is read through net profit margin, EBITDA margin, and return on equity. Net profit margin is profit after tax divided by revenue. JSPL records the highest net margin in FY2024-25 at 5.7 per cent, supported by its low-cost base and a value mix of rails, plates, and special long products, while Tata Steel records the lowest at 1.5 per cent as



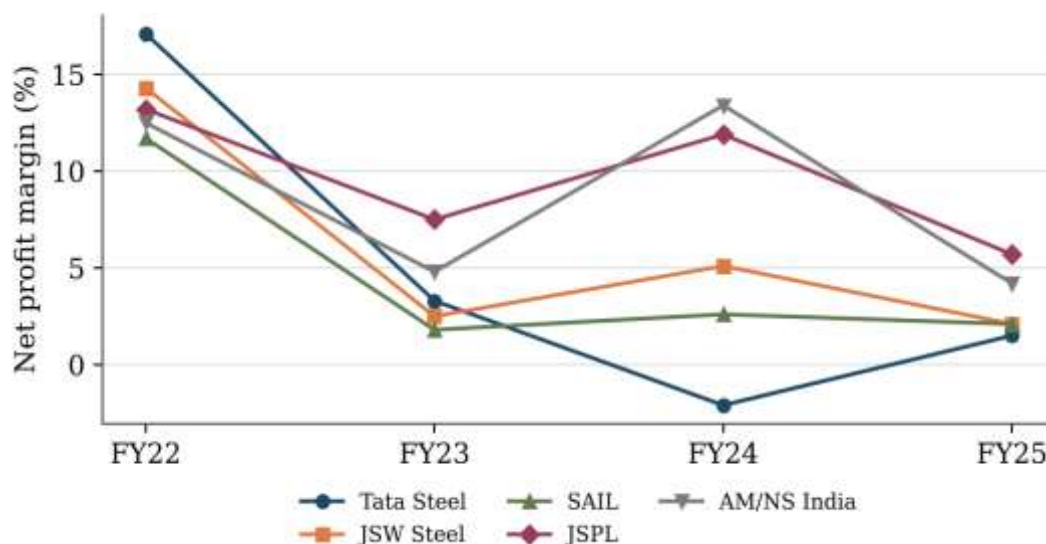
European losses offset Indian profits. JSW Steel and SAIL stand at 2.1 per cent each. AM/NS India's margins vary the most from year to year, reflecting the exposure of flat steel to the price cycle.

Table 3. Net profit margin (%)

Company	FY22	FY23	FY24	FY25
Tata Steel	17.1	3.3	-2.1	1.5
JSW Steel	14.3	2.5	5.1	2.1
SAIL	11.7	1.8	2.6	2.1
JSPL	13.2	7.5	11.9	5.7
AM/NS India	12.5	4.8	13.4	4.2

Source: Ratio analysis from company reports.

Figure 2. Net profit margin, FY2021-22 to FY2024-25



EBITDA margin, which measures core operating performance before financing and tax tells the same story more sharply. JSPL leads at 19.1 per cent in FY2024-25, followed by JSW Steel at 13.4 per cent, Tata Steel at 11.8 per cent, and SAIL at 11.6 per cent. JSPL's low conversion-cost base and optimised product mix let it earn more per tonne, while SAIL's public-sector cost rigidities and higher write-offs weigh on its margin. AM/NS India's EBITDA margin is among the highest in strong years, consistent with the process technology of its two parents.

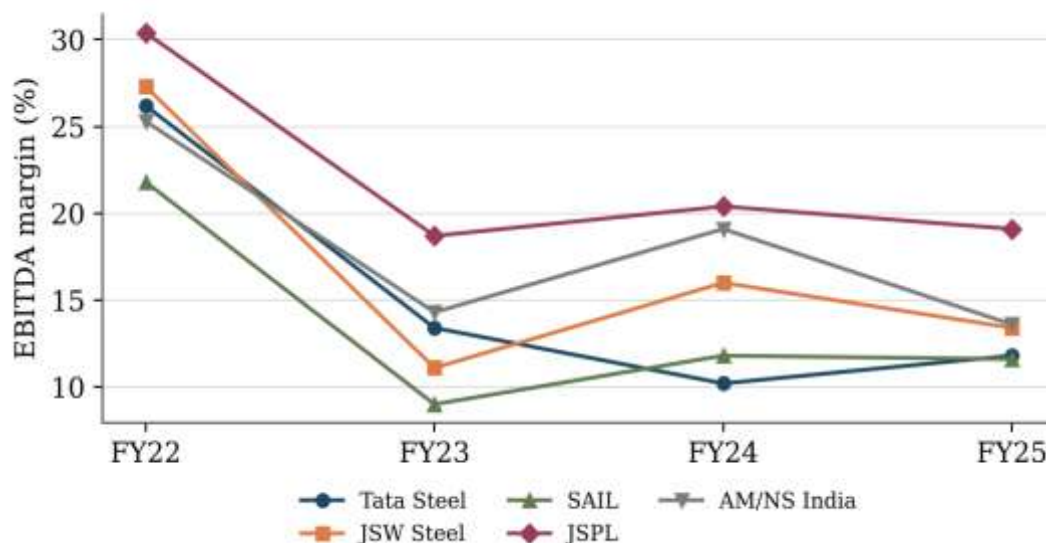
Table 4. EBITDA margin (%)

Company	FY22	FY23	FY24	FY25
Tata Steel	26.2	13.4	10.2	11.8
JSW Steel	27.3	11.1	16.0	13.4
SAIL	21.8	9.0	11.8	11.6
JSPL	30.4	18.7	20.4	19.1
AM/NS India	25.3	14.3	19.1	13.6

Source: Ratio analysis from company reports.



Figure 3. EBITDA margin, FY2021-22 to FY2024-25



Return on equity, profit after tax over net worth, follows the same ranking but with a narrower gap. JSPL leads in FY2024-25 at 5.9 per cent ahead of JSW Steel at 4.3 per cent, SAIL at 3.9 per cent, and Tata Steel at 3.5 per cent whose large equity base and European losses hold down its consolidated return. The smaller spread in ROE than in net margin suggests that part of JSPL's advantage is offset by the greater leverage of its peers.

Table 5. Return on equity (%)

Company	FY22	FY23	FY24	FY25
Tata Steel	42.9	7.3	-5.0	3.5
JSW Steel	30.6	6.2	11.3	4.3
SAIL	23.1	3.7	5.1	3.9
JSPL	19.0	10.3	13.3	5.9

Source: Ratio analysis from company reports. ROE is not computed for AM/NS India, which does not disclose net worth.

4.3 Liquidity

Liquidity is measured through the current ratio, with the quick and cash ratios as supporting measures. JSW Steel is the only firm with a current ratio above 1.0 in FY2024-25 at 1.17, followed by JSPL at 1.06, while Tata Steel and SAIL sit at 0.90. SAIL has the weakest liquidity on the cash ratio, at 0.01 on cash of about Rs 285.62 crore as inventory makes up nearly half its current assets, while JSPL holds the best quick and cash positions on its low inventory. None of the firms are at serious short-term liquidity risk but SAIL is the most stretched. AM/NS India does not disclose the current-asset and current-liability detail needed for these ratios.

Table 6. Current ratio (x) with cash and quick ratios (FY2024-25)

Company	FY22	FY23	FY24	FY25	Cash	Quick
Tata Steel	1.07	1.01	0.87	0.90	0.11	0.28
JSW Steel	1.14	0.97	0.98	1.17	0.19	0.59
SAIL	0.73	0.77	0.90	0.90	0.01	0.27
JSPL	1.16	1.13	1.11	1.06	0.16	0.72

Source: Ratio analysis from company reports.



4.4 Efficiency

Efficiency is read through asset turnover and the working-capital days. Tata Steel has the highest asset turnover at 0.80 and JSPL the lowest at 0.58, reflecting JSPL's larger asset base relative to revenue. On inventory, JSPL is the leanest at about 41 days against SAIL's 104, the heaviest of the group, and on receivables Tata Steel and JSPL collect in about 10 days against SAIL's 27. Working-capital efficiency is therefore a clear line of separation, strongest at JSPL and weakest at SAIL.

Table 7. Efficiency ratios (FY2024-25)

Company	Asset turnover (x)	Inventory (days)	Receivables (days)
Tata Steel	0.80	80	10
JSW Steel	0.70	76	18
SAIL	0.77	104	27
JSPL	0.58	41	10

Source: Ratio analysis from company reports. AM/NS India does not disclose the inputs for these ratios.

4.5 Solvency

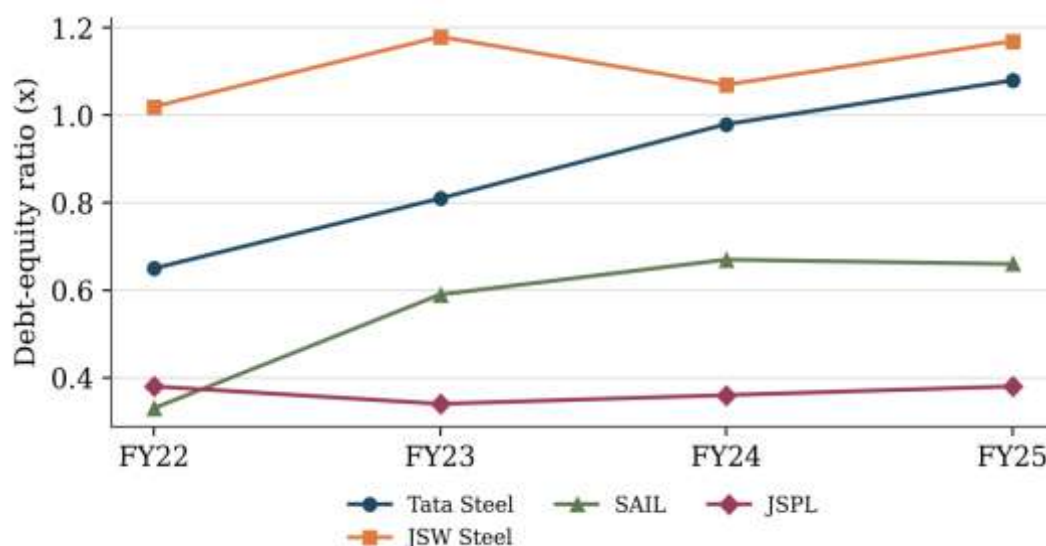
Solvency is measured through the debt-equity ratio and interest coverage. JSPL has the lowest debt-equity at 0.38 and the highest interest coverage at 4.31 times, the most conservative balance sheet of the group. JSW Steel has the highest leverage at 1.17 and the thinnest coverage at 1.60 times, leaving little cushion if prices weaken. Tata Steel's gearing rose steadily to 1.08 by FY2024-25, while SAIL remains conservative at 0.66. The spread in leverage is the sharpest line of difference between the firms.

Table 8. Debt-equity ratio (x) and interest coverage

Company	FY22	FY23	FY24	FY25	Interest coverage
Tata Steel	0.65	0.81	0.98	1.08	3.12
JSW Steel	1.02	1.18	1.07	1.17	1.60
SAIL	0.33	0.59	0.67	0.66	2.08
JSPL	0.38	0.34	0.36	0.38	4.31

Source: Ratio analysis from company reports. For AM/NS India, disclosed interest coverage was 5.41 (FY22), 2.19 (FY23), and 3.41 (FY24).

Figure 4. Debt-equity ratio, FY2021-22 to FY2024-25





4.6 Benchmarking composite

The weighted composite links each firm's practices to a single comparative score. The composite is computed for the four listed firms, because it requires the liquidity and efficiency inputs that AM/NS India does not disclose. JSPL ranks first at 59.1, carried by maximum scores on profitability and solvency, which express its cost discipline and low leverage. JSW Steel follows at 44.8 on the strength of its liquidity and scale, Tata Steel at 42.1 on efficiency and scale, and SAIL at 30.3. Because profitability and solvency together carry half the weight, the dimensions fed by the common strategic factors dominate the outcome, which is why the smallest firm leads and the scale leaders follow.

Table 9. Benchmarking composite scorecard, FY2024-25 (normalised 0 to 100)

Company	Profit.	Solvency	Liquidity	Efficiency	Scale	Composite	Rank
JSPL	100.0	100.0	60.9	0.0	0.0	59.1	1
JSW Steel	24.9	0.0	100.0	55.1	70.5	44.8	2
Tata Steel	1.1	34.0	0.0	100.0	100.0	42.1	3
SAIL	10.7	40.8	1.2	84.2	30.8	30.3	4

Source: Computed from audited FY2024-25 figures using min-max normalisation and the dimension weights in Section 3.4.

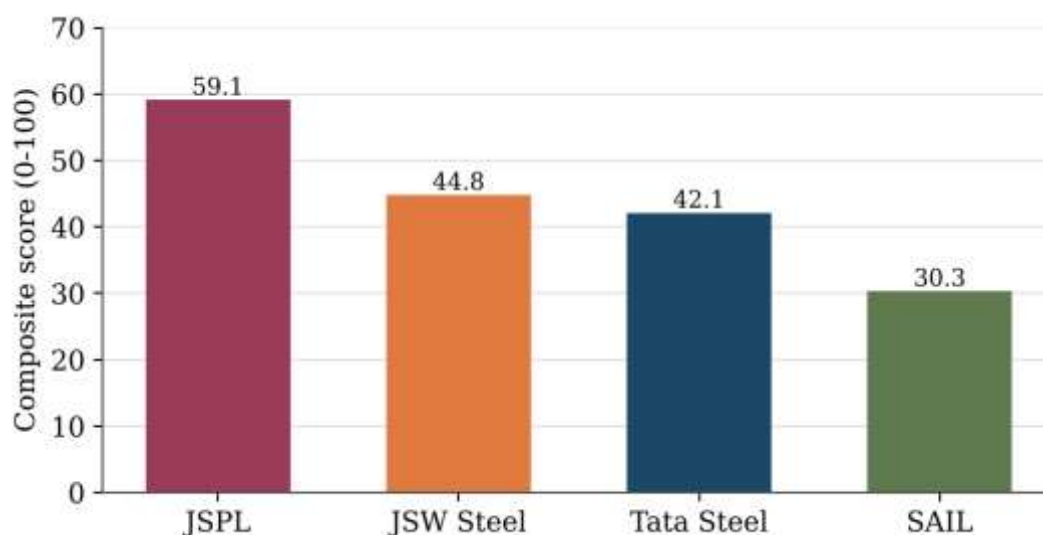


Figure 5. Benchmarking composite score, FY2024-25

4.7 Comparative SWOT

The SWOT reading ties each point to a measured figure. Tata Steel combines the largest capacity and the top efficiency and scale scores with a European drag that produced a FY2023-24 group net loss of about Rs 4,910 crore and rising leverage. JSW Steel pairs the only revenue growth in the group and the best liquidity with the highest leverage and thinnest interest coverage. SAIL holds extensive captive ore and low leverage but the weakest liquidity and the heaviest working capital. JSPL shows the strongest margins and lowest leverage but the smallest scale, and AM/NS India brings parental process technology and strong margins alongside limited disclosure and rising gearing.

Table 10. Comparative SWOT matrix

Firm	Strengths	Weaknesses	Opportunities	Threats
Tata Steel	Largest capacity about 35 MTPA; top efficiency and scale (100.0)	European losses; FY24 group net loss of Rs 4,910 crore	Domestic demand about 152.13 MT; 12% safeguard duty	Rising imports; EU CBAM; leverage up to D/E 1.08
JSW Steel	Revenue growth at CAGR +4.9%; best	Highest leverage, D/E 1.17; thinnest coverage at 1.60x	Approved capex about Rs 61,863	Financing cost of debt-funded



Firm	Strengths	Weaknesses	Opportunities	Threats
	liquidity, current ratio 1.17		crore; record value-added sales	expansion against thin coverage
SAIL	Extensive captive iron ore; low D/E of 0.66	Lowest cash ratio at 0.01; highest inventory days at 104	Expansion to about 35 MTPA by FY2030-31; PLI for specialty steel	Last-ranked composite 30.3; import price pressure
JSPL	Strongest margins, EBITDA 19.1%; lowest D/E 0.38; rank 1	Smallest scale about 15.6 MTPA; 0.0 on scale and efficiency	Value strategy, PLI, and Angul Phase II with funding headroom	Import price pressure; margin fell to 5.7% from 11.9%
AM/NS India	Parental technology (ArcelorMittal, Nippon); strong EBITDA 19.1% FY24	Unlisted, limited disclosure; volatile PAT	Rs 60,000 crore Hazira expansion; auto import substitution	Import pressure; cyclical margins; rising gearing

Source: Company annual reports and Ministry of Steel.

4.8 Cost-benefit and coordinate positioning

The five firms face one common strategic investment, large capacity expansion combined with decarbonisation, so the cost-benefit reading weighs that commitment against each firm's financial capacity. The low-leverage firms, JSPL and SAIL, are best placed to fund it, JSPL most favourably of all, while the high-leverage JSW Steel carries the most finely balanced position because a very large commitment meets thin interest coverage. Tata Steel's outlook is favourable in India but uncertain overseas, and AM/NS India's depends on disciplined execution of its Hazira programme.

Table 11. Cost-benefit summary of the common strategic investment

Firm	Investment scale	Financial capacity	Expected benefit	Net outlook
Tata Steel	High (India plus green EAF)	Moderate (rising leverage, D/E 1.08)	High (restore group returns)	Favourable in India; overseas uncertain
JSW Steel	Very high (about Rs 61,863 cr)	Low to moderate (most leveraged, coverage 1.60x)	High (scale plus value-added)	Favourable if prices hold; leverage risk
SAIL	High (20 to 35 MTPA)	High (low leverage, captive ore)	Moderate (efficiency-dependent)	Favourable if execution improves
JSPL	Moderate to high (Angul Phase II done)	High (lowest leverage, D/E 0.38)	High (efficient ramp-up)	Most favourable in the peer set
AM/NS India	Very high (about Rs 60,000 cr Hazira)	Moderate (gearing rising to 1.11 FY24)	High (scale plus auto flats)	Favourable if prices hold; execution and leverage risk

Source: Capital-expenditure disclosures and computed solvency ratios; abatement costs from the reviewed literature.

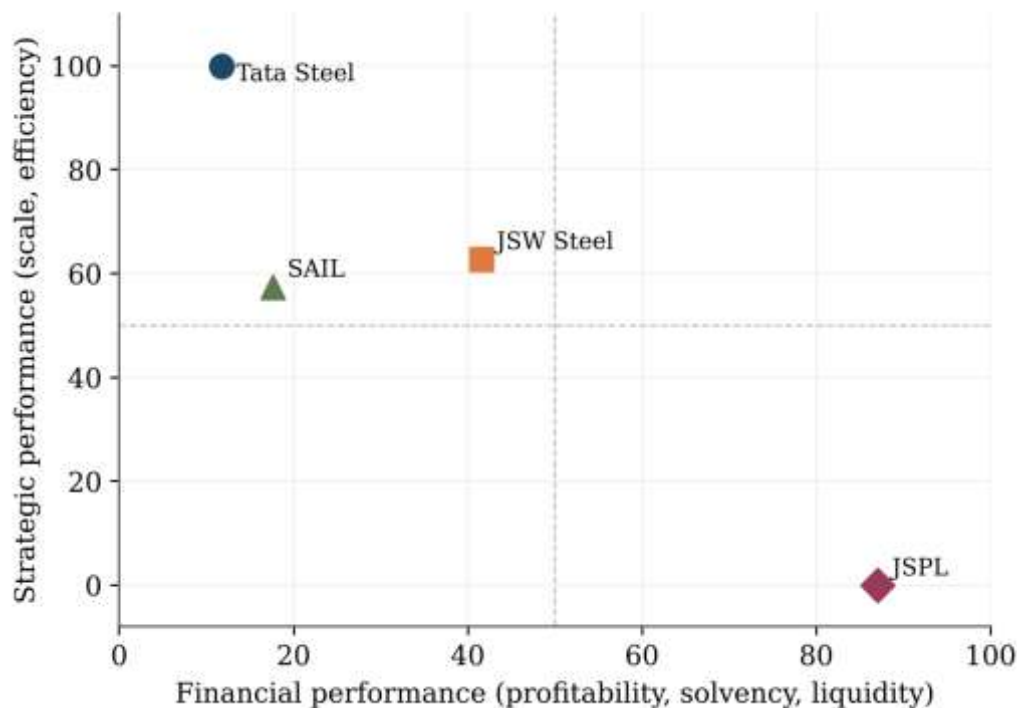
4.9 Coordinate Positioning

Plotting each listed firm on the two composite axes gives the positioning map in Figure 6. Tata Steel sits at (11.7, 100.0), strong on scale but financially pressured; JSW Steel at (41.6, 62.8), the balanced scale-builder; SAIL at (17.6, 57.5), mid-scale and financially weak; and JSPL at (87.0, 0.0), financially strong but smaller in scale. No firm leads on both



axes, which is the central trade-off of the industry. AM/NS India is not plotted, because the axes draw on the liquidity and efficiency scores it does not disclose.

Figure 6. Strategic positioning map, FY2024-25



5. Discussion

Read together, the five techniques converge on one central result: scale and profitability are decoupled in Indian steel. The two largest firms by revenue, Tata Steel and JSW Steel, are not the most profitable, while the smallest listed producer, JSPL, is the most profitable and the most consistent, and it leads the composite scorecard. This supports the resource-based reading that the quality of resources and the discipline with which they are used, rather than their sheer quantity, determine performance.

The pattern can be understood through a small set of common strategic factors that recur wherever a firm performs well: cost discipline and operational efficiency, low financial leverage, working-capital efficiency, and captive raw-material integration. JSPL holds these most fully, which is why it converts them into the highest competitive standing despite scoring nothing on scale. Two further factors, capacity expansion and a decarbonisation commitment, are shared by all five firms and so act as conditions of competing rather than sources of advantage that separate the leaders. Alongside these, each firm carries one distinctive factor: Tata Steel's global diversification and scale, JSW Steel's debt-financed scale-building, SAIL's public-sector captive-resource scale, JSPL's lean value-added focus, and AM/NS India's parental process technology.

Leverage is the sharpest line of difference and moves inversely with profitability: the most geared firm, JSW Steel, records thin coverage and mediocre returns, while the least geared, JSPL, records the strongest margins. Captive integration adds resilience, but SAIL shows that a valuable resource does not translate into performance unless the organisation around it is efficient, since its deep captive ore and low leverage are offset by heavy inventory and weak liquidity, leaving it last in the composite. These findings are consistent with the reviewed evidence that leverage and working-capital discipline, rather than size, drive steel-firm performance (Banerjee, 2018; Garg & Singh, 2023; Pandey & Kumar, 2011).

Because each firm's rank is held down by one identifiable dimension, the recommendations are specific. JSW Steel should make deleveraging its central priority, using the cash flows of its maturing capacity to lift its weak solvency score before adding more debt. SAIL should pursue operational and commercial reform, cutting its 104 inventory days and lifting its current ratio from 0.82, so that its low leverage and captive ore finally convert into a higher composite. Tata Steel should resolve the drag of its overseas operations, so that its leading efficiency and scale translate into the profitability and liquidity on which it scores lowest. JSPL should build competitive scale while protecting the cost discipline and low leverage that give it leadership, and AM/NS India should combine disciplined Hazira execution with



fuller disclosure. More broadly, the scale leaders would benefit from the financial prudence of the value leader, and the value leader from the scaling capability of the larger firms.

6. Conclusion

This study compared the strategic practices and competitive advantage of the five leading Indian integrated steel producers over FY2021-22 to FY2024-25, using ratio analysis, weighted benchmarking, SWOT, cost-benefit analysis, and coordinate positioning together. Its central conclusion is that sustained competitive advantage in Indian steel rests on cost efficiency, balance-sheet conservatism, working-capital discipline, and captive raw-material integration rather than on scale. JSPL, the smallest listed firm, leads the composite on the strength of these factors, while the larger Tata Steel and JSW Steel rank behind it, and SAIL, despite deep resources, ranks last because its liquidity and efficiency are weak. The coordinate analysis shows an industry positioned on a trade-off between scale and financial quality, with no firm yet leading on both.

The contribution is both to bring the financial and strategic dimensions together in one comparison of five firms, including the rarely analysed JSPL and the unlisted AM/NS India for the most recent period, and to show how competitive advantage can be studied through five converging techniques on fully traceable secondary data. The findings matter for managers setting priorities on cost, leverage, expansion, and decarbonisation, for investors and analysts judging resilience behind headline size, and for policymakers concerned with a strategically vital industry under import and transition pressure.

The study has limits. It rests entirely on secondary data and so is bound by the firms' disclosure, which is why AM/NS India could be compared only on its disclosed figures and not scored on the composite. The benchmarking and coordinate scores are relative and computed for a single cyclical year and a chosen weighting, and the descriptive statistics rest on four annual observations per firm, so the shape measures are indicative rather than inferential. Future work could extend the panel to more years and firms to allow formal significance testing, track the decarbonisation transition and its financial effects over time, add manager interviews and a governance-disclosure assessment, and compare the Indian producers with global peers.

Acknowledgements

I am indeed grateful to Vice-Chancellor, Registrar, Controller of Examinations and research Co-ordinator, MS Ramaiah University of Applied Sciences Bangalore for their support to complete this research work.

It gives me immense pleasure to place on record my deep sense of indebtedness to my research supervisor Dr. NARAYANA B, Faculty of Management and Commerce, MS Ramaiah University of Applied Sciences Bangalore, whose guidance and encouragement enabled me to execute the research work. This task would have become impossible without her co-operation and all possible assistance.

I am thankful to all the Respondents who have readily furnished me with the required data.

I am extremely thankful to Dr. K.M. Sharath Kumar, Professor & Dean of Management and Commerce Department, MS Ramaiah University of Applied Sciences Bangalore, for the timely suggestions.

I would like to thank my parents (my mother Rashmi Devi), all my friends and well-wishers in supporting me to shape the research study.

Declarations

This research is a result of my own investigation. All sections of the text and results, which have been obtained from other sources, are fully referenced.

Funding. This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Ethical approval. This study uses only publicly available secondary data from audited corporate reports and government sources and did not involve human participants or animals, so ethical approval was not required.

Data availability. All data analysed in this study are drawn from publicly available annual and integrated reports, Business Responsibility and Sustainability Reports, and Ministry of Steel publications, as listed in the references.



References

- Banerjee, A. (2018). Determinants of corporate financial performance relating to capital structure decisions in the Indian iron and steel industry: An empirical study. SSRN.
- Bannigol, K. (2022). Analysis of Indian iron and steel industry using Altman's Z-score model. *International Journal of Current Research*.
- Burange, L. G., & Yamini, S. (2010). Competitiveness of the firms in Indian iron and steel industry (Working Paper No. 33). Department of Economics, University of Mumbai.
- Datta, A. (2025). Resilience in the Indian steel industry: A strategic and comparative financial ratio assessment of Tata Steel vs. Jindal Steel and Power during the pre-pandemic and pandemic eras. *EPRA International Journal of Economic and Business Review*, 13(4).
- Devi, K. (2026). Strategic cost management practices and competitive advantage: Evidence from Indian industrial firms. *Journal of International Commercial Law and Technology*, 7(1), 808-821. <https://doi.org/10.61336/Jiclt/26-01-83>
- Diabat, A., Al-Aomar, R., Alrefaei, M., Alawneh, A., & Faisal, M. N. (2013). A framework for optimizing the supply chain performance of a steel producer. In *Proceedings of the 15th International Conference on Enterprise Information Systems (ICEIS 2013)* (Vol. 1, pp. 554-562). SciTePress. <https://doi.org/10.5220/0004628405540562>
- Dutta, S. K. (2025). Towards an outcome-based approach in ESG reporting: The sustainability drive of Tata Steel. *IIM Ranchi Journal of Management Studies*.
- Gajdzik, B., Slusarczyk, B., & Stverkova, H. (2023). Digital transformation of the steel distribution sector in the context of Industry 4.0. *Scientific Papers of Silesian University of Technology: Organization and Management Series*, (190). <https://doi.org/10.29119/1641-3466.2023.190.2>
- Garg, M. C., & Singh, M. (2023). Working capital management on the firm's profitability of steel sector firms in India. *Jindal Journal of Business Research*. <https://doi.org/10.1177/2516600X231178395>
- Ghosh, S., Gupta, P., Datta, R., & Mukerjee, D. (2010). Competitiveness of Indian steel industry through cost efficiency and innovation.
- Gnanaprakasam, G. (2023). Financial performance evaluation based on Economic Value Added (EVA): A study of Steel Authority of India Ltd listed in BSE.
- Grant, R. M. (2022). *Contemporary strategy analysis* (11th ed.). Wiley.
- Gupta, M. (2023). Corporate sustainability architecture: A case-study for Tata Steel [Capstone project]. Kautilya School of Public Policy, GITAM.
- Institute for Energy Economics and Financial Analysis. (2023). Steel decarbonisation in India. IEEFA. <https://indiaenvironmentportal.org.in/reports-and-documents/steel-decarbonisation-in-india>
- Jena, T., & Sanyal, P. K. (2025). Mergers and acquisitions in India's steel sector: Evaluating corporate and shareholder growth through VRIO. *International Journal of Research and Scientific Innovation*, 12(9), 4320-4330. <https://doi.org/10.51244/IJRSI.2025.120800392>
- Johnson, S., Deng, L., & Gencer, E. (2023). Environmental and economic evaluation of decarbonization strategies for the Indian steel industry. *Energy Conversion and Management*, 293, 117511. <https://doi.org/10.1016/j.enconman.2023.117511>
- Kaur, N., & Singh, V. (2020). Empirically examining the impact of corporate social responsibility on financial performance: Evidence from Indian steel industry. *Asian Journal of Accounting Research*, 6(2), 134-151. <https://doi.org/10.1108/AJAR-07-2020-0061>
- Krishnan, M. S. (2025). *Tata Steel (A): Sustainability through circularity*. WDI Publishing, University of Michigan.
- Kumar, S. (2021). Structural changes and competitiveness of the steel industry in India: Assessed by productivity growth post economic reforms. *International Journal of Global Business and Competitiveness*, 16(1), 39-50. <https://doi.org/10.1007/s42943-021-00024-w>
- Kumar Srinivasan, K. (2023). Operational excellence of the steel industry using the Lean Six Sigma approach: A case study. *International Journal of Quality & Reliability Management*.
- Mallik, R. (2016). Corporate governance practices: The way of Tata Steel Ltd in India. *International Journal of Applied Business and Economic Research*, 14(6), 4825-4846.
- Manoj Kumara, N. V., & Satyanarayana. (2013). An analysis of the impact of merger and acquisition of Corus by Tata Steel. *IOSR Journal of Business and Management*, 11(1), 41-47.
- Maurya, R. (2016). CSR practices in Steel Authority of India Limited: A descriptive study. *SMS Journal of Entrepreneurship & Innovation*, 2(2), 60-68.



- Muruganandan, S. (2015). A comparative study on financial strength of Tata Steel Ltd and SAIL. The Management Accountant (ICMAI).
- Ozcan, G. B., Coronado Mondragon, A. E., & Harindranath, G. (2018). Strategic entry and operational integration of emerging market firms: The case of Cemex, Beko and Tata Steel in the UK. *Journal of Business Research*, 93, 242-254. <https://doi.org/10.1016/j.jbusres.2018.02.024>
- Pal, R., Kumar, M., & Mishra, A. (2025). An empirical assessment of the financial performance of selected Indian steel companies: Focussing on liquidity, solvency, efficiency and profitability. *Journal of Informatics Education and Research*, 5(2).
- Pandey, D. K., & Kumar, M. (2011). Profitability analysis of the steel industry in India. *International Journal for Management Research*, 1(3).
- Patel, R., & Prajapati, K. (2012). A comparative study on working capital management of selected steel companies of India. SSRN.
- Patel, V., & Aditya, K. (2024). ESG and its impact on performance: A study of metal industry in India. *OPJU Business Review*, 3(1), 1-10. <https://doi.org/10.63825/opjubr.2024.3.1.842>
- Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance*. Free Press.
- Prasad, D. S., Pradhan, R. P., Gaurav, K., Chatterjee, P. P., Kaur, I., Dash, S., & Nayak, S. (2018). Analysing the critical success factors for implementation of sustainable supply chain management: An Indian case study. *DECISION*, 45(1), 3-25. <https://doi.org/10.1007/s40622-017-0171-7>
- PwC India. (2019). *The Indian steel industry: Growth, challenges and digital disruption*. PricewaterhouseCoopers.
- Saha, A. K., & Mandal, A. K. (2025). Towards a low-carbon steel industry in India: Decarbonization strategies and environmental impact assessment. *Journal of The Institution of Engineers (India): Series D*, 107(2), 1503-1516. <https://doi.org/10.1007/s40033-025-00923-9>
- Sebastian, V. J. (n.d.). Technical and scale efficiency of Indian steel producers: A Data Envelopment Analysis.
- Shukla, A., Dhawan, E., & Gupta, A. (2021). A study on the financial performance analysis of select steel companies in India. *Shodh Sanchar Bulletin*, 11(41), 44-50.
- Singh, K., & Girdhar, T. (2022). TATA Steel India: Corporate social responsibility case study project. In A. Das Gupta (Ed.), *A casebook of strategic corporate social responsibility* (pp. 85-103). Springer.
- Singla, V. (2015). A comparative study on the financial performance of Tata Steel Ltd. and JSW Steel Ltd. *International Journal of Business and Management Invention*, 4.
- Sinha, R. P., & Ghoshal, A. (1999). Customer service as a source of competitive advantage in the Indian steel industry.
- Sreepriya, J., Suprabha, K. R., & Prasad, K. (2023). Does GRI compliance moderate the impact of sustainability disclosure on firm value? *Society and Business Review*, 18(1), 152-174. <https://doi.org/10.1108/SBR-06-2022-0172>
- Sukanya, R. (2026). An empirical study of financial performance in selected steel companies in India. *International Journal of Innovative Research in Technology*, 13(4).
- Sukul, B. (2016). A comparative financial analysis of Tata Steel Ltd. and SAIL. *IOSR Journal of Economics and Finance*, 7(6), 1-5.
- Tanwar, R. (2013). Porter's generic competitive strategies. *IOSR Journal of Business and Management*, 15(1), 11-17.
- Tolettini, L., & Di Maria, E. (2023). The impact of Industry 4.0 on the steel sector: Paving the way for a disruptive digital and ecological transformation. *Recycling*, 8(4), 55. <https://doi.org/10.3390/recycling8040055>
- Vasanth, S., & Rath, M. R. (2016). Indian steel industry: Current business trends and HR interventions. *Indian Journal of Science and Technology*, 9(32), 1-5.
- ArcelorMittal Nippon Steel India. (2023). Sustainability report FY2022-23.
- ArcelorMittal Nippon Steel India. (2025). Sustainability report FY2024-25.
- ArcelorMittal Nippon Steel India. (2026). Sustainability report FY2025-26. https://www.amns.in/storage/sustainability/AMNS_SR_25_26.pdf?id=6
- Jindal Steel & Power. (2025a). GRI sustainability report FY2024-25.
- Jindal Steel & Power. (2025b). Integrated annual report FY2024-25.
- Jindal Steel & Power. (2026). Integrated annual report FY2025-26.
- JSW Steel. (2022). Integrated report FY2021-22.
- JSW Steel. (2023). Integrated report FY2022-23.
- JSW Steel. (2024). Integrated report FY2023-24.
- JSW Steel. (2025a). Business responsibility and sustainability report FY2024-25.



JSW Steel. (2025b). Integrated report FY2024-25. <https://www.jswsteel.in/>
JSW Steel. (2026). Business responsibility and sustainability report FY2025-26.
Ministry of Steel, Government of India. (2022). Annual report FY2021-22.
Ministry of Steel, Government of India. (2023). Annual report FY2022-23. <https://steel.gov.in/>
Ministry of Steel, Government of India. (2024). Annual report FY2023-24. <https://steel.gov.in/node/1643>
Ministry of Steel, Government of India. (2025). Annual report FY2024-25. <https://steel.gov.in/>
Ministry of Steel, Government of India. (2026). Annual report FY2025-26. <https://steel.gov.in/>
Steel Authority of India Limited. (2022). Annual report FY2021-22.
Steel Authority of India Limited. (2023). Annual report FY2022-23.
Steel Authority of India Limited. (2024). Annual report FY2023-24.
Steel Authority of India Limited. (2025). Annual report FY2024-25.
Tata Steel. (2023). Integrated report and annual accounts FY2022-23. <https://www.tatasteel.com/investors/integrated-report-annual-report/>
Tata Steel. (2024). Integrated report and annual accounts FY2023-24.
Tata Steel. (2025). Integrated report and annual accounts FY2024-25. <https://www.tatasteel.com/media/23894/fy25-integratedreport.pdf>

Appendix A. Descriptive statistics by firm (FY2021-22 to FY2024-25)

For each firm, mean, standard deviation, skewness, and kurtosis are reported for the four financial years. N is the number of annual observations. Standard deviation is calculated on a sample basis and kurtosis is excess (Fisher) kurtosis. With only four observations per series, the shape measures are indicative rather than inferential.

Table A1. Tata Steel

Variable	N	Mean	Std. Dev.	Skewness	Kurtosis
Revenue (Rs crore)	4	2,33,756.50	12,229.22	-0.61	-2.57
EBITDA margin (%)	4	15.40	7.32	1.81	3.38
Net profit margin (%)	4	4.95	8.41	1.57	2.80
Return on equity (%)	4	12.18	21.12	1.64	3.00
Debt-equity ratio (x)	4	0.88	0.19	-0.34	-1.83
Current ratio (x)	4	0.96	0.09	0.26	-3.63

Source: Data analysis using Excel.

Table A2. JSW Steel

Variable	N	Mean	Std. Dev.	Skewness	Kurtosis
Revenue (Rs crore)	4	1,64,040.25	12,369.58	-1.44	2.51
EBITDA margin (%)	4	16.95	7.18	1.55	2.52
Net profit margin (%)	4	6.00	5.69	1.70	2.80
Return on equity (%)	4	13.10	12.04	1.66	2.72
Debt-equity ratio (x)	4	1.11	0.08	-0.33	-3.98
Current ratio (x)	4	1.07	0.10	0.06	-5.55

Source: Data analysis using Excel.

Table A3. SAIL

Variable	N	Mean	Std. Dev.	Skewness	Kurtosis
Revenue (Rs crore)	4	1,03,198.75	1,217.53	-0.27	-1.03
EBITDA margin (%)	4	13.55	5.65	1.68	3.18
Net profit margin (%)	4	4.55	4.78	1.97	3.90



Variable	N	Mean	Std. Dev.	Skewness	Kurtosis
Return on equity (%)	4	8.95	9.45	1.97	3.91
Debt-equity ratio (x)	4	0.56	0.16	-1.72	2.90
Current ratio (x)	4	0.83	0.09	-0.18	-5.00

Source: Data analysis using Excel.

Table A4. AM/NS India

Variable	N	Mean	Std. Dev.	Skewness	Kurtosis
Revenue (Rs crore)	4	55,851.50	1,807.27	1.53	2.02
EBITDA margin (%)	4	18.08	5.40	0.99	-0.46
Net profit margin (%)	4	8.73	4.90	0.02	-5.76
Debt-equity ratio (x)	3	0.99	0.14	-1.15	-

Source: Data analysis using Excel.

Table A5. JSPL

Variable	N	Mean	Std. Dev.	Skewness	Kurtosis
Revenue (Rs crore)	4	51,042.50	1,568.99	1.22	0.74
EBITDA margin (%)	4	22.15	5.55	1.90	3.64
Net profit margin (%)	4	9.58	3.55	-0.10	-4.17
Return on equity (%)	4	12.13	5.50	0.32	0.16
Debt-equity ratio (x)	4	0.37	0.02	-0.85	-1.29
Current ratio (x)	4	1.12	0.04	-0.65	0.71

Source: Data analysis using Excel.