



## An analytical study of working capital position in selected companies of paper & forest products industry

Pandya Abhishek Devendrabhai

Research Scholar, Department of Commerce, Institution, Atmiya University, Gujarat, India,

### Abstract

This study analyses the working capital position of JK Tyre, Tamil Nadu Newsprint, and West Coast Paper from 2020–21 to 2024–25 using key ratios like current, quick, inventory turnover, debtor's turnover, and working capital turnover. The findings show that West Coast Paper maintained strong turnover efficiency, while Tamil Nadu Newsprint struggled with liquidity and negative working capital cycles. ANOVA results indicate significant differences in most ratios across companies, highlighting varied working capital practices. The study provides updated insights and emphasizes the need for better working capital management, especially for Tamil Nadu Newsprint.

**Keywords:** Insights, anova test, working capital, efficiency, significant

### Introduction

Working capital management is vital for maintaining liquidity and operational efficiency, especially in capital-intensive industries like paper and forest products. This sector faces unique challenges such as high inventory levels, longer production cycles, and fluctuating demand, making efficient use of current assets and liabilities essential (Reddy & Reddy, 2003) <sup>[18, 19]</sup>. Despite its importance, limited research exists on post-2020 working capital practices in Indian paper companies. Recent studies (Garg & Singh, 2023 <sup>[8, 9]</sup>; Nazir & Afza, 2009) <sup>[14, 15]</sup> highlight the strong link between working capital ratios—such as current ratio, quick ratio, and turnover ratios—and financial performance. This study addresses the gap by analysing the working capital position of key firms in the Indian paper and forest products industry from 2021 to 2025

### Literature review

Since 2000, studies such as Prasad (2000) <sup>[16]</sup> and Reddy & Reddy (2003) <sup>[18, 19]</sup> have highlighted the importance of receivables and inventory control for improving liquidity in Indian paper firms. Mahapatra & Panda (2008) <sup>[11]</sup> noted that current and quick ratios in the sector often fell below optimal levels, while Ambati (2017) <sup>[3]</sup> showed that efficient working capital planning boosted profitability in Sirpur Paper Mills. Campello *et al.* (2017) <sup>[6]</sup> applied multi-objective models to demonstrate trade-offs between production, inventory, and capital efficiency in paper units. Zenkevich & Ivakina (2018) <sup>[24]</sup> emphasized the benefits of supply-chain financing in reducing cash conversion cycles. Studies by Jahan (2020) <sup>[10]</sup> and Nazir & Afza (2009) <sup>[14, 15]</sup> confirmed a negative relationship between the cash conversion cycle and profitability across manufacturing sectors. Ajmera (2021) <sup>[2]</sup> analyzed the impact of working capital management on profitability in selected Indian tyre companies from 2011–12 to 2018–19. The study focused on key ratios like current ratio, quick ratio, inventory turnover, and working capital turnover, concluding that efficient working capital management positively influences profitability. Garg & Singh (2023) <sup>[8, 9]</sup> found moderate working capital levels most beneficial for performance. Recent firm-level analysis (2024–2025) of JK Paper and

peers showed statistically significant inter-firm differences in liquidity ratios, often tested using ANOVA. Researchers have also observed that extreme levels of working capital—either high or low—tend to reduce returns, suggesting a nonlinear relationship. Sector-wide reviews during the pandemic emphasized the role of liquidity buffers and efficient inventory in crisis resilience. Although forest product-specific literature is limited, findings from pulp and paper firms (Monto *et al.*, 2012) <sup>[12]</sup> support tighter control over receivables and inventory to reduce financing costs. Overall, the literature from 2000 to 2025 supports the view that liquidity indicators like current ratio, quick ratio, inventory turnover, and working capital days are critical for evaluating financial efficiency in paper and forest products companies.

### Research Gap

The numerous studies have examined working capital management across general manufacturing sectors, limited research specifically focuses on the paper and forest products industry, especially using recent financial data. There is also a lack of comparative analysis among leading companies like JK Paper, Andhra Paper, and Tamil Nadu Newsprint, highlighting the need for sector-specific, company-level evaluation of liquidity and turnover ratios.

### Objectives of the study

- To analyze the current and quick ratios of selected paper companies from FY 2021 to FY 2025.
- To evaluate inventory, debtors turnover, and working capital cycle efficiency.
- To compare the working capital performance across JK Tyre, Tamil Nadu Newsprint, and Andhra Paper.
- To suggest improvements in working capital management practices.

### Hypotheses for the study

1. **H<sub>01</sub>:** There is no significant change in the current and quick ratios of selected paper companies from FY 2021 to FY 2025.
2. **H<sub>02</sub>:** There is no significant difference in inventory

turnover, debtors turnover, and working capitalefficiency among the selected companies.

- 3. **H<sub>03</sub>:** There is no significant variation in working capital performance across JK Tyre, Tamil Nadu Newsprint, and Andhra Paper.

**Period of the Study**

The study covers a five-year period from Financial Year (FY) 2020-21 to FY 2024-25.

**Scope of the Study**

The study focuses on analyzing key working capital ratios—current ratio, quick ratio, inventory turnover, debtors’ turnover, and working capital cycle—of three selected companies in the paper and allied industries.

**Selection of Samples**

**Table 1:** Selection of Samples

Company Name	Total Assets (₹ Crore) (In 2024-25)
JK Paper	7,824.92
Tamil Nadu Newsprint	5,882.78
Andhra Paper	2,604.63

**Source:** Selected Companies Annual Financial Reports

**Data Collection**

The study is based on secondary data collected from annual reports, financial statements, and official company filings of JK Tyre, Tamil Nadu Newsprint, and West Coast Paper for the period FY 2021 to FY 2025. The data focuses specifically on key working capital ratios to assess and compare the liquidity and efficiency of these selected companies.

**Data Analysis and Interpretation**

**Table 2:** Current Ratios (In Times)

FY	JK Tyre	Tamil Nadu Newsprint	West Coast Paper
2020-21	0.64	0.55	1.3
2021-22	0.64	0.35	1.19
2022-23	0.63	0.42	1.11
2023-24	0.76	0.43	0.9
2024-25	0.83	0.43	0.96

**Source:** Selected Companies Annual Financial Reports

The current ratio trends from FY 2020–21 to 2024–25 reveal varied liquidity positions among the three companies. JK Tyre maintained a relatively low but improving current ratio, rising steadily from 0.64 to 0.83, indicating gradual enhancement in its ability to cover short-term liabilities. Tamil Nadu Newsprint consistently reported the weakest liquidity position, with its current ratio fluctuating between 0.35 and 0.55, well below the standard benchmark of 1, suggesting ongoing short-term financial stress. In contrast, West Coast Paper began with a strong ratio of 1.3 in 2020–21, reflecting a healthy working capital position. However, a continuous decline was observed, reaching 0.96 in 2024–25, hinting at a potential strain in its liquidity management over the period. Overall, while JK Tyre is showing progress,

Tamil Nadu Newsprint needs significant improvement, and West Coast Paper must address its downward trend.

**Table 3:** Quick Ratios (In Times)

FY	JK Tyre	Tamil Nadu Newsprint	West Coast Paper
2020-21	0.53	0.4	0.98
2021-22	0.68	0.34	1.06
2022-23	0.64	0.29	0.9
2023-24	0.66	0.32	0.61
2024-25	0.62	0.31	0.83

**Source:** Selected Companies Annual Financial Reports

The quick ratio data from FY 2020–21 to 2024–25 reflects varying levels of short-term liquidity among the three companies. JK Tyre exhibited relatively stable performance, with its quick ratio fluctuating between 0.53 and 0.68, indicating moderate liquidity but consistently below the ideal benchmark of 1:1, suggesting limited immediate asset coverage without depending on inventory. Tamil Nadu Newsprint showed the weakest performance, with ratios declining from 0.40 to 0.31, highlighting persistent short-term liquidity stress and a greater dependence on stock clearance or extended credit terms. In contrast, West Coast Paper displayed relatively strong liquidity in the initial years, reaching 1.06 in 2021–22, but witnessed a downward trend to 0.61 in 2023–24 before slightly recovering to 0.83 in 2024–25. This pattern suggests that although West Coast Paper faced some liquidity tightening, it remained better positioned than its peers. Overall, the analysis indicates that West Coast Paper maintained relatively sound liquidity, JK Tyre remained moderate, and Tamil Nadu Newsprint struggled with short-term financial health throughout the period.

**Table 4:** Inventory Turnover Ratios (In Times)

FY	JK Tyre	Tamil Nadu Newsprint	West Coast Paper
2020-21	7.18	4.08	5.4
2021-22	7.64	9.08	9.51
2022-23	7.86	5.4	12.08
2023-24	7.07	4.59	7.6
2024-25	5.38	4.38	4.78

**Source:** Selected Companies Annual Financial Reports

The inventory turnover ratios from FY 2020–21 to 2024–25 indicate fluctuations in inventory management efficiency across the three companies. JK Tyre maintained stable inventory turnover between 7.07 and 7.86 from 2020–21 to 2023–24, reflecting effective inventory utilization, but saw a notable decline to 5.38 in 2024–25, suggesting slower inventory movement. Tamil Nadu Newsprint experienced a significant spike to 9.08 in 2021–22, possibly due to higher sales or reduced inventory levels, but subsequently declined to 4.38 by 2024–25, indicating reduced efficiency. West Coast Paper performed strongly in 2021–22 and 2022–23 with ratios of 9.51 and 12.08, respectively—showing high inventory turnover—before falling to 4.78 in 2024–25, suggesting accumulation of unsold inventory or decreased sales. Overall, the data reflects that all three firms experienced declining inventory efficiency in the latest year, which may affect liquidity and operational performance if not addressed.

**Table 5: Debtors Turnover Ratios (In Times)**

FY	JK Tyre	Tamil Nadu Newsprint	West Coast Paper
2020-21	35.99	6.12	15.24
2021-22	26.79	12.66	15.5
2022-23	22.72	17.63	16.78
2023-24	18.74	12.04	17.27
2024-25	16.93	10.58	18.18

Source: Selected Companies Annual Financial Reports

From FY 2020–21 to 2024–25, JK Tyre experienced a steady decline in its debtor’s turnover ratio from 35.99 to 16.93, suggesting a significant slowdown in receivables collection, which may strain liquidity and cash flow. Tamil Nadu Newsprint showed an initial improvement from 6.12 to 17.63 (in FY 2022–23), indicating better credit control, but the ratio declined to 10.58 by FY 2024–25, reflecting

weakened collection efficiency. In contrast, West Coast Paper showed consistent improvement from 15.24 to 18.18, indicating a strong and improving credit management policy. Overall, the data suggests that West Coast Paper maintained relatively better and more stable receivables performance compared to the other two firms.

**Table 6: Working Capital Turnover in Days**

FY	JK Tyre	Tamil Nadu Newsprint	West Coast Paper
2020-21	-64.9	-100.81	60.74
2021-22	-19.45	-89.32	35.22
2022-23	1.97	-38.25	14.09
2023-24	8.43	-15.99	-8.36
2024-25	20.66	-27.34	32.49

Source: Selected Companies Annual Financial Reports

The data reveals varied working capital efficiency across the three companies. JK Tyre shows consistent improvement, moving from a negative working capital cycle of -64.9 days in FY 2020–21 to a positive 20.66 days in FY 2024–25, reflecting better liquidity and operational control. Tamil Nadu Newsprint remains in the negative zone throughout, with values improving from -100.81 days to -27.34 days, indicating ongoing working capital constraints and over-reliance on current liabilities. West Coast Paper displayed a

fluctuating trend: from 60.74 days in FY 2020–21, it dipped to -8.36 days in FY 2023–24 but recovered to 32.49 days in FY 2024–25, suggesting variable efficiency in managing short-term assets and liabilities. Overall, JK Tyre showed the most consistent improvement, while Tamil Nadu Newsprint continued to struggle with negative working capital cycles.

**Hypotheses Testing**

**Table 7: Hypotheses Testing**

Name of Ratio	F Value	F Critical Value	P-Value	Result (H <sub>0</sub> )
Current Ratio	40.6527	3.8853	4.53E-06	Rejected (Significant)
Quick Ratio	32.0698	3.8853	1.53E-05	Rejected (Significant)
Inventory Turnover Ratio	1.5188	3.8853	0.2582	Failed to Reject (Not Significant)
Debtors Turnover Ratio	7.7261	3.8853	0.0070	Rejected (Significant)
Working Capital Turnover (in Days)	7.6075	3.8853	0.0073	Rejected (Significant)

Source: Calculated from MS Excel

The ANOVA results reveal that there are statistically significant differences among the selected companies in terms of current ratio, quick ratio, debtor’s turnover ratio, and working capital turnover in days, as the calculated F-values for these ratios exceed their respective F-critical values and their p-values are less than 0.05. This leads to the rejection of the null hypothesis (H<sub>0</sub>), indicating that the mean values of these ratios differ significantly across companies. However, in the case of the inventory turnover ratio, the F-value is lower than the F-critical value and the p-value is greater than 0.05, suggesting no significant difference between the companies for this particular ratio, and hence the null hypothesis is not rejected.

**Findings**

- JK Tyre showed significant improvement in liquidity, with both current and quick ratios gradually increasing over the years, reflecting better short-term financial health.

- Tamil Nadu Newsprint consistently had the lowest liquidity ratios, with its current and quick ratios below 0.5, indicating higher dependence on current liabilities and possible liquidity stress.
- West Coast Paper maintained a relatively strong liquidity position in earlier years, but both its current and quick ratios declined over time, suggesting tightening liquidity.
- In terms of inventory turnover, JK Tyre showed consistently high and stable efficiency, though there was a slight decline in the last year. West Coast Paper peaked in FY 2022–23, indicating strong inventory movement but saw a sharp drop thereafter. Tamil Nadu Newsprint was inconsistent, with a notable drop in later years.
- Debtors’ turnover ratio was highest for JK Tyre, showing fast collection from customers, although the trend declined over time. West Coast Paper displayed stable and improving receivables management, while

Tamil Nadu Newsprint showed fluctuating performance, peaking in FY 2022–23 and then declining.

- Working capital turnover in days revealed that JK Tyre transitioned from negative to positive, indicating significant improvement in working capital utilization. In contrast, Tamil Nadu Newsprint remained in a negative cycle, reflecting poor working capital efficiency. West Coast Paper showed fluctuation, with a temporary negative in FY 2023–24 but recovering by FY 2024–25.

## References

1. Ahmed M, Waqar S. Working capital cycle and firm performance: Evidence from Asian manufacturing. *International Journal of Financial Research*,2020;11(6):129–138.
2. Ajmera TR. Working Capital Management and Its Impact on Profitability in Tyre Industry: A Study of Selected Companies. *Journal of Advanced Research in Economics and Administrative Sciences*,2021;2(1):1–14.
3. Ambati R. A study on working capital management of Sirpur Paper Mills. *EPR International Journal of Economic and Business Review*,2017;5(8):68–74.
4. Bansal M. Liquidity and working capital trends in Indian manufacturing SMEs. *Finance India*,2023;37(1):119–132.
5. Bhunia A, Khan IU. A study on managing working capital in paper manufacturing firms. *Journal of Business and Economics Research*,2011;9(4):93–102.
6. Campello M, Gao J, Xiao Y. Multi-objective optimization of working capital in manufacturing: A case study in the paper industry. *arXiv preprint*,2017:1703:03024.
7. Chittithaworn C, Islam MA, *et al.* Working capital management: A comparative study of Bangladesh and Indian paper companies. *Asian Journal of Finance and Accounting*,2011;3(2):1–15.
8. Garg MC, Singh M. Working capital management on the firm's profitability of steel sector firms in India. *SAGE Open*,2023;13(1):1–12.
9. Garg M, Singh S. Working Capital Management and Profitability in Capital-Intensive Industries in India. *South Asian Journal of Business and Management Cases*,2023;12(1):87–100.
10. Jahan R. Working Capital Management and Its Impact on Profitability: Empirical Study on Manufacturing Firms. *arXiv preprint*,2020:2005:09482.
11. Mahapatra BK, Panda G. Working capital management in Indian paper industry: An empirical study. *Indian Journal of Finance*,2008;2(3):22–28.
12. Monto S, Ramesh A, Rao N. Managing working capital with efficiency in pulp and paper sector: Evidence from Indian companies. *International Journal of Management and Financial Accounting*,2012;4(2):167–179.
13. Muthuraman K, Ragupathi M. Empirical analysis of working capital indicators and profitability in Indian manufacturing: Evidence from the paper industry. *International Journal of Management*,2022;13(3):34–45.
14. Nazir MS, Afza T. Impact of aggressive working capital management policy on firms' profitability. *The IUP Journal of Applied Finance*,2009;15(8):19–30.
15. Nazir MS, Afza T. Impact of aggressive working capital management policy on firms' profitability. *The IUP Journal of Applied Finance*,2009;15(8):19–30.
16. Prasad R. Liquidity management in paper industry: A case study of Andhra Paper Mills. *Indian Journal of Commerce*,2000;53(2):53–60.
17. Priyadarshini V, Das S. Performance of working capital in Indian paper firms: A post-COVID review. *Indian Journal of Finance and Banking*,2024;8(1):44–57.
18. Reddy S, Reddy V. Working capital trends and liquidity analysis in Indian paper companies. *The Chartered Accountant*,2003;52(6):24–31.
19. Reddy YV, Reddy GS. Working capital management practices in paper industry: A study of select companies. *Indian Journal of Commerce*,2003;56(2):46–56.
20. Sharma AK, Kumar S. Effect of working capital management on firm profitability: Empirical evidence from India. *Global Business Review*,2011;12(1):159–173.
21. Singh A, Yadav M. Liquidity indicators and working capital policies in forest-based industries in India. *International Journal of Commerce and Management Studies*,2025;9(2):98–112.
22. Singh JP. Inventory and receivables management in paper companies. *The Management Accountant*,2008;43(5):393–398.
23. Sushma M, Bhupesh S. Effect of working capital management on profitability in the manufacturing sector: A case of India. *Decision*,2006;33(2):27–40.
24. Zenkevich SV, Ivakina LN. Supply chain finance as a tool for working capital efficiency in forest products. *International Journal of Supply Chain Management*,2018;7(6):140–149.