Working Capital Management in the Indian Automobile Sector: What Drives Cash Pressure and What Firms Can Do

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Abstract

Working capital management (WCM) decides how fast sales become cash. In India's automobile ecosystem, cash pressure rises when volumes jump, exports swing, or the vehicle mix shifts toward higher-value models. This paper combines (i) SIAM time-series on domestic sales, production, and exports, (ii) ACMA indicators for the auto-component sector, and (iii) published firm-level evidence on cash conversion cycle (CCC), liquidity ratios, and distress signals. A consistent message appears across studies: longer CCC (higher inventory days and receivable days) is usually linked with weaker profitability, while tighter cycle control supports returns. Negative working capital can be a valid strategy for strong firms, but it becomes risky when demand slows or inventories rise in the channel. The paper ends with a short set of practical levers for OEMs, suppliers, and smaller firms.

Keywords: Working capital; Cash conversion cycle; DIO; DSO; DPO; Liquidity; Indian automobile industry.

1 Introduction

Working capital is where growth turns into either confidence or stress. When sales rise, inventory, dealer stock, receivables, and payables all move. Mix changes matter too. If the industry sells more utility vehicles and premium platforms, each "day" of inventory ties up more rupees than before.

To keep the discussion grounded, we start with SIAM segment totals. In FY2024– 25, domestic sales (sum of segments in Table 2) reached **25,634,174** units, up from **23,549,036** in FY2023–24 (about **8.9%** growth). Exports rose from **4,500,494** to **5,363,089** units (about **19.2%**). That creates a combined dispatch-scale volume near **31.0 million** units in FY2024–25 when domestic and exports are added (Table 1). To avoid confusion, this paper keeps domestic sales, exports, and production as separate series. (Society of Indian Automobile Manufacturers, 2025)

Firm-level evidence supports the same operational story: higher CCC, inventory days, and receivable days are often linked with lower profitability in Indian automobile firms, so reducing these durations is a practical goal. (Garg and Meentu, 2023; Das, 2024)

2 Data sources and consistency rules

2.1 Sources used

Industry time-series come from the SIAM Annual Report 2024–25 (domestic sales, production, exports). Auto-component performance and trade structure come from ACMA's FY24 review and supporting sector reports. Firm-level ratios, CCC evidence, and distress indicators come from published academic studies listed in the bibliography. (Society of Indian Automobile Manufacturers, 2025; ACMA, 2024; Brickwork Ratings, 2024)

2.2 Three series that get mixed up

Many write-ups mix:

- **Domestic sales** (sold in India),
- **Exports** (shipped outside India), • **Production** (produced in India).

They are related, but not identical. This paper applies two simple rules:

- Domestic sales total is **computed** as the sum of segment lines shown in Table 2.
- Export and production totals follow **SIAM grand totals**. Where a segment line is marked "reconciled," it is treated as a residual to maintain internal table arithmetic (the grand total remains unchanged).

Table 1: Crosswalk of scale (units). Domestic sales totals are computed from Table 2. Exports totals follow Table 4.

Series (units)	FY2023–24	FY2024–25
Domestic sales total (computed)	23,549,036	25,634,174
Exports total (SIAM grand total)	4,500,494	5,363,089
Domestic + exports (dispatch scale)	28,049,530	30,997,263

3 Industry context (short view)

3.1 Domestic sales: mix makes cash heavier

Table 2 shows steady growth after FY2021–22. But the mix shift is important. Passenger cars fall in units while utility vehicles rise. That increases the rupee value of stock and receivables, even if unit growth looks modest. (Society of Indian Automobile
Manufacturers, 2025; PwC and ACMA, 2024)

Table 2: Domestic sales trends in India by segment (units), FY2020–21 to FY2024–25. Source: SIAM Annual Report 2024– 25. **Note:** Grand total is computed as the sum of segment totals shown in this table.

Category	2020–21	2021–22	2022–23	2023–24	2024–25
Passenger Cars	1,772,972	2,329,143	1,747,376	1,549,377	1,353,287
Utility Vehicles	1,222,236	1,493,016	2,187,229	2,520,209	2,796,702
Vans	67,785	67,955	81,785	149,571	151,859
Total Passenger Vehicles	**3,062,993**	**3,890,114**	**4,016,390**	**4,219,157**	**4,301,848**
M&HCVs	141,142	187,844	252,277	265,062	236,954
LCVs	426,818	528,722	704,363	702,598	720,127
Total CVs	**567,960**	**716,566**	**956,640**	**967,660**	**957,081**
Three Wheelers	215,151	260,995	488,768	795,759	740,038
Two Wheelers	15,119,472	13,466,412	15,862,771	17,558,705	19,621,266
Quadricycle	90,033	65,979	15,775	7,755	13,941
Grand Total (computed)	**19,055,609**	**18,400,066**	**21,340,344**	**23,549,036**	**25,634,174**

3.2 Production and exports: why cash planning needs both

Production sets upstream inventory and payables. Exports often stretch the receivable cycle because paperwork, shipping time, and credit terms add days. Tables 3 and 4 keep the reported grand totals intact. (Society of Indian Automobile Manufacturers, 2025)

Table 3: Production trends in India by major segment (units), FY2020–21 to FY2024–25. Source: SIAM Annual Report 2024–25. **Note:** Two-wheeler values are reconciled to maintain arithmetic consistency with the reported grand total series.

Category	2020–21	2021–22	2022–23	2023–24	2024–25
Total Passenger Vehicles	2,711,457	3,603,159	4,238,772	4,218,601	4,301,848
Total Commercial Vehicles	568,559	809,803	1,126,910	1,036,340	956,640
Three Wheelers	219,446	327,068	442,476	856,105	741,331
Total Two Wheelers (reconciled)	15,120,771	12,877,576	15,396,688	17,746,365	19,607,452
Quadricycle	(included)	(included)	(included)	(included)	120
Grand Total (reported)	**18,620,233**	**17,617,606**	**21,204,846**	**23,857,411**	**25,607,391**

Table 4: Exports trends in India by segment (units), FY2020–21 to FY2024–25. Source: SIAM Annual Report 2024–25. **Note:** Twowheeler exports are reconciled to maintain arithmetic consistency with the reported grand total series.

Category	2020–21	2021–22	2022–23	2023–24	2024–25
Total Passenger Vehicles	**843,956**	**1,155,310**	**1,157,383**	**1,093,084**	**1,156,878**
Total CVs	90,525	165,318	140,329	113,388	80,954
Three Wheelers	284,727	315,822	266,092	300,334	307,538
Total Two Wheelers (reconciled)	2,842,953	3,936,911	3,163,587	2,951,346	3,806,367
Quadricycle	71,886	43,998	33,908	42,342	11,352
Grand Total (reported)	**4,134,047**	**5,617,359**	**4,761,299**	**4,500,494**	**5,363,089**

3.3 Auto-component sector: scale and working-capital load

ACMA's FY24 review shows the auto-component sector at large scale, with exports and imports both significant. These flows add inventory-in-transit, credit exposure, and forex-linked working capital use. (ACMA, 2024; Brickwork Ratings, 2024)

Table 5: Auto-component industry performance (FY23 vs FY24), selected indicators. Source: ACMA FY24 performance review presentation.

Indicator	FY23	FY24
Industry turnover (crore)	5,59,748	6,14,670
Supply to OEMs (crore)	4,76,022	5,18,313
Aftermarket (crore)	85,333	93,866
Exports (crore)	1,61,483	1,75,960
Imports (crore)	1,63,090	1,73,470
Trade balance (USD)	≈ -200 million ≈	+300 million

4 Operating-cycle framework

The cash conversion cycle (CCC) is the most direct way to connect operations with cash:

$$CCC = DIO + DSO - DPO. \quad (1)$$

To compute the day-metrics from financial statements:

$$DIO = \frac{\text{Average Inventory}}{\text{Average Trade Receivables}} \times 365, \qquad DSO = \frac{\text{Average Trade Receivables}}{\text{Average Trade Receivables}} \times 365,$$

$$\text{DPO} = \frac{\text{Average Trade Payables}}{\text{Cost of Goods Sold}} \times 365. \quad \text{Cost of Goods Sold} = \text{Net Sales} \quad (2)$$

Here is the simple reading: higher DIO and DSO trap cash. DPO can offset, but only up to the point where supplier health and supply reliability stay safe.

5 What studies report (short synthesis)

The literature keeps repeating a practical message.

CCC and profitability: Panel evidence for Indian automobile firms reports a negative and significant link between profitability and CCC (and also between profitability and inventory/receivable periods). The implication is not complicated: shorter cycle, easier cash, better returns. (Garg and Meentu, 2023)

Liquidity and leverage: A broader study covering 2014–2023 highlights that liquidity measures (like quick ratio) can support performance, while leverage (debt-equity) tends to hurt profitability. (Das, 2024)

6 Firm snapshots: working capital, liquidity, and stress signals

6.1 Working capital posture (selected OEMs)

Table 6 shows that negative working capital appears in large firms too. This can be a planned strategy when inventory turns fast and supplier terms are strong. But it becomes fragile when demand drops or inventories rise in the channel. (Kalidhass et al., 2025a,b) Table 6: Working capital (reported values; units as per source), selected companies (2015–2019). Source: EPRA study.

Year	Maruti	M&M	Tata Motors	Bajaj Auto	Eicher
2015	-6,251	1,154	-11,798	5,049	294
2016	-41,405	940	-7,045	8,101	-22
2017	-46,214	2,997	-9,060	8,211	-93
2018	-75,207	3,151	-9,247	5,124	330
2019	-17,887	3,737	-9,712	2,189	2,401

6.2 Liquidity ratios (current and quick)

Liquidity levels differ sharply across firms. In the reported sample, Bajaj Auto has the highest mean current and quick ratios, while Tata Motors has the lowest. Maruti's low mean ratios match a tighter, negative working-capital posture in many years. (Kalidhass et al., 2025a,b)

Table 7: Current ratio, selected companies (2015–2024). Source: EPRA study.

Year	Maruti	M&M	Tata	Bajaj	Eicher
2015	0.93	1.13	0.42	2.13	1.31
2016	0.63	1.09	0.60	3.74	0.98
2017	0.65	1.32	0.58	3.56	0.94
2018	0.51	1.24	0.62	2.25	1.15
2019	0.87	1.26	0.58	1.45	2.21
2020	0.75	1.38	0.53	1.55	3.40

2021	1.15	1.34	0.60	2.51	3.60
2022	0.99	1.38	0.58	2.13	1.91
2023	0.58	1.33	0.45	1.71	1.15
2024	0.77	1.35	0.56	1.19	1.15
SD	0.2007	0.1024	0.0666	0.8551	0.9957
Mean	0.78	1.28	0.55	2.22	1.78

Table 8: Quick ratio, selected companies (2015–2024). Source: EPRA study.

Year	Maruti	M&M	Tata	Bajaj	Eicher
2015	0.63	0.86	0.19	1.95	1.09
2016	0.36	0.84	0.33	3.33	0.73
2017	0.40	1.03	0.33	3.33	0.71
2018	0.20	0.88	0.37	2.07	0.98
2019	0.64	0.99	0.37	1.25	1.91
2020	0.46	0.43	0.38	1.30	3.13
2021	0.96	1.08	0.42	2.25	3.29
2022	0.78	1.06	0.44	1.87	1.60
2023	0.36	0.99	0.33	1.44	0.85
2024	0.60	0.99	0.43	0.99	0.84
SD	0.2254	0.1906	0.0723	0.8164	0.9729
Mean	0.54	0.91	0.36	1.98	1.51

7 Distress lens (Altman Z-score summary)

Z-score is not a pure working-capital measure, but it is a useful warning indicator. In the reported series, Bajaj Auto stays in the safe range, while Tata Motors remains in distress for many years and moves to grey zone in 2024. Maruti sits mostly in the grey zone, with distress values in some earlier years. (Singh, 2025)

Table 9: Comparative Altman Z-score (2015–2024). Source: distress analysis study.

Year	Maruti	Tata	M&M	Bajaj	TVS
2015	1.984	0.152	0.743	2.755	2.625
2016	1.891	0.651	0.723	2.474	2.367
2017	1.518	0.406	0.740	2.239	2.055
2018	1.435	0.795	0.784	2.136	1.895
2019	1.741	1.274	0.747	2.647	1.978
2020	2.157	-0.009	0.422	2.418	2.593
2021	2.099	0.203	0.230	2.519	2.506
2022	2.183	0.616	0.642	2.674	2.511
2023	2.152	1.352	0.732	3.169	2.762
2024	2.176	1.833	1.019	3.060	2.616

8 Managerial levers (simple, action-focused)

WCM improves when you move the real drivers: DIO, DSO, and DPO.

8.1 For OEMs

- **Treat inventory days as a top metric.** Small shifts in channel stock can quietly eat cash and margins. (ICRA, 2024)

- **Redesign inventory rules for the new mix.** UV-heavy and premium-heavy mix raises the rupee value per unit in stock, so old stocking norms become expensive. (PwC and ACMA, 2024; Society of Indian Automobile Manufacturers, 2025)

- **Run exports like a receivables portfolio.** Set clear credit terms, control documentation, and track ageing tightly. (Society of Indian Automobile Manufacturers, 2025)

8.2 For component manufacturers

- **Match payables plans to import dependence.** Imported inputs can force higher safety stocks if supply is uncertain, which increases working capital needs. (ACMA, 2024; Brickwork Ratings, 2024)

- **Separate OEM vs aftermarket collections.** Aftermarket receivables are usually more fragmented, so they need a different collection rhythm. (ACMA, 2024)

8.3 For smaller firms

- **Maintain a monthly working-capital bridge.** Keep it simple: opening WC → inventory change → receivable change → payable change → closing WC.

- **Watch both ratios and ageing.** A current ratio alone can hide slow stock or overdue invoices.

9 Limitations

This is a desk-based consolidation of reported series and published studies. Reporting formats differ across sources, so this paper separates domestic, exports, and production to avoid accidental mixing. Also, “best” working-capital posture varies by business model (OEM vs supplier vs aftermarket) and strategy (including planned negative working capital).

10 Conclusion

Working capital is not just an accounting topic in the Indian automobile sector. It is operational cash. Industry series show strong scale and mix shifts. Firm studies repeatedly suggest that shorter CCC supports profitability, while long cycles and weak liquidity raise stress. (Garg and Meentu, 2023; Das, 2024)

The most useful goal is not “maximum liquidity.” It is fast cash conversion with safe supply. Firms that control inventory, collect on time, and manage payables responsibly turn growth into cash. Firms that do not will feel growth as strain.

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