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A Study on Impact of Credit Risk on The Financial Stability of Royal Enfield

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KEYWORDS

Credit Risk, Financial Stability, Royal Enfield, Altman Z Score, NPA Ratio, Current Ratio, ROI, ROE, Risk Management, Automotive Industry

ABSTRACT

In the ever-evolving landscape of the Indian automotive industry, financial stability remains paramount for ensuring long-term competitiveness and sustainability. This study delves into the intricate relationship between credit risk and financial stability, using Royal Enfield as the focal point. With the increasing volatility of financial markets, understanding the dimensions of credit risk—especially in terms of liquidity, profitability, and solvency—has become crucial for industry players. The research adopts a quantitative framework grounded in secondary financial data, spanning five years of Royal Enfield's audited reports. Key credit risk indicators such as the Current Ratio, Non-Performing Asset (NPA) Ratio, Return on Investment (ROI), and Return on Equity (ROE) are critically analysed. Furthermore, the Altman Z-Score model is employed to assess financial distress and predict the likelihood of bankruptcy. The study also benchmarks Royal Enfield's credit exposure against major competitors to conduct a comparative industry analysis. Through financial ratio analysis and risk assessment models, the findings reveal that while Royal Enfield exhibits financial resilience, emerging credit risks necessitate proactive management strategies. The study concludes with a set of practical recommendations aimed at enhancing credit risk governance, thereby fortifying financial health. Overall, the research contributes to the broader discourse on corporate financial stability by offering a focused, data-driven perspective on risk management within the Indian automotive context.

1. INTRODUCTION

Credit risk has emerged as a pivotal concern within corporate finance, particularly in the manufacturing and automotive sectors where operational liquidity and timely receivables directly influence financial continuity. Broadly defined, credit risk denotes the possibility of financial loss stemming from a borrower's or counterparty's inability or unwillingness to honour debt obligations. In the context of Royal Enfield—an iconic brand and a leading manufacturer in India's mid-size motorcycle

segment—credit risk surfaces predominantly through trade receivables and potential non-performing assets (NPAs). These elements, though often underestimated in operational strategy, have the capacity to destabilise cash flows, compromise liquidity, and ultimately hinder financial sustainability if left unchecked. In an increasingly competitive and capital-intensive industry, effective credit risk management becomes not just a safeguard but a strategic necessity to maintain financial stability and operational momentum.

Royal Enfield operates within a high-volume, dealer-driven market where credit extension is a routine aspect of commercial engagement. The reliance on receivable cycles and the potential for delayed payments or defaults introduces systemic vulnerability into the company's balance sheet. In this regard, the current study seeks to explore how Royal Enfield manages and responds to these risk factors. While profitability indicators such as Return on Investment (ROI) and Return on Equity (ROE) may present a surface-level picture of success, deeper analysis is required to understand how credit-related inefficiencies—particularly NPAs—could potentially undercut these gains over time. The study is thus motivated by the imperative to evaluate how credit risk variables interact with the firm's liquidity, profitability, and overall financial health.

A key analytical lens employed in this research is the Altman Z-Score model, a widely acknowledged predictive tool designed to assess a firm's probability of bankruptcy. Developed by Edward Altman in the 1960s, this model synthesises multiple financial ratios—covering profitability, leverage, liquidity, and market value—into a single composite score. When applied longitudinally across multiple years, it serves as an early warning mechanism for identifying financial distress. For a company like Royal Enfield, which maintains a legacy brand but operates in an aggressively evolving market, such predictive insights are invaluable. By mapping the Z-Score over time, the study seeks to discern trends in the firm's financial resilience and pre-empt potential destabilising factors tied to credit exposure.

In tandem with the Z-Score, the study integrates traditional ratio analysis to dissect the financial anatomy of the company. Ratio analysis offers granular insight into the company's short-term and long-term financial standing by measuring aspects such as current ratio, quick ratio, debt-to-equity ratio, ROI, and ROE. Of particular interest are the NPAs and receivables, as these components directly correlate with credit risk and liquidity. When the current ratio dips below acceptable thresholds or when NPAs rise over successive quarters, it may indicate deeper operational inefficiencies or lax credit policies. On the contrary, consistently strong ratios may reflect prudent financial governance and robust risk mitigation frameworks. Through these metrics, the study attempts to establish linkages between credit risk variables and the company's broader financial stability profile.

Another critical dimension addressed in this paper is comparative analysis. Royal Enfield does not operate in isolation—it functions within the larger two-wheeler manufacturing ecosystem, competing with brands such as Bajaj Auto, TVS Motor Company, and Hero MotoCorp. By benchmarking Royal Enfield's credit-related metrics against industry averages or direct competitors, the study offers valuable context. For instance, if Royal Enfield's receivables turnover is slower than industry peers despite similar sales volumes, this may point to structural weaknesses in credit management or dealer financing mechanisms. Similarly, a lower current ratio or higher debtor days could indicate cash flow bottlenecks specific to Royal Enfield's operating model. Comparative analysis thus helps position the company on a relative scale of risk exposure and financial discipline, offering insight into its competitive risk posture.

Importantly, this paper also addresses the cyclical nature of the Indian automotive industry. The sector is highly sensitive to macroeconomic variables such as interest rates, fuel prices, inflation, and consumer sentiment. During economic downturns, defaults on payments and dealer insolvencies become more prevalent, exacerbating credit risk. Conversely, during boom periods, firms may loosen credit norms to push sales, inadvertently raising future risk exposure. This cyclicality introduces an added layer of complexity in interpreting financial data, which the study attempts to accommodate through time-series analysis and multi-year financial evaluation. Such an approach enables the identification of systemic risks versus temporary aberrations in credit management outcomes.

The broader significance of this study lies in its potential contribution to financial planning and policy-making within the manufacturing domain. In an age where firms are under pressure to maintain lean working capital cycles while maximising stakeholder value, understanding the implications of credit risk becomes paramount. Mismanagement of receivables not only impairs liquidity but also constrains investment in innovation, marketing, and capacity expansion. This study, therefore, aims to deliver actionable insights that can aid corporate decision-makers in tightening credit controls, redesigning receivables policies, or even restructuring dealer financing arrangements to mitigate risk exposure. Moreover, it aspires to inform financial institutions, investors, and analysts about the hidden risk elements embedded within a seemingly healthy financial profile.

In sum, this research embarks on a multi-pronged exploration of credit risk at Royal Enfield by leveraging statistical models, financial ratio analysis, and industry benchmarking. It is premised on the hypothesis that while the company exhibits commendable profitability and brand strength, underlying credit risk challenges could pose threats to its financial stability if not proactively addressed. By adopting a methodical and evidence-based approach, the study seeks to unveil latent vulnerabilities in the firm's credit architecture and offer strategic recommendations for fortifying its financial position. As India's economy matures and credit cycles evolve, such investigations become not just academic exercises but strategic imperatives for long-term organisational resilience.

2. REVIEW OF LITERATURE

1. Bhadrappa Haralayya (2022): In his study titled *"Impact of Ratio Analysis on Financial Performance in Royal Enfield (Bhavani Motors) Bidar"*, Bhadrappa Haralayya delves into the practical application of financial ratios as pivotal indicators of organisational health. The paper underscores the analytical power of ratios such as current ratio, debt-to-equity, net profit margin, and ROE in understanding how well a firm can manage its credit-related obligations. Specifically for Royal Enfield, the study finds that fluctuations in liquidity ratios signal the firm's exposure to short-term credit risks, while profitability and solvency ratios reveal long-term sustainability. Haralayya's analysis indicates that rigorous financial ratio tracking is essential to detect and mitigate the potential rise in non-performing assets (NPAs), which can otherwise severely impair operational continuity and financial discipline. This paper directly informs the current research by affirming the utility of ratio analysis in diagnosing early warning signs of credit instability within the automotive manufacturing sector.

2. Sareen, A. & Sharma, S. (2022): The paper *"Assessing Financial Distress and Predicting Stock Prices of Automotive Sector: Robustness of Altman Z-score"* provides a rigorous validation of the Altman Z-score as a dependable predictive model for financial distress. Sareen and Sharma emphasise that in the automotive sector, where capital intensity and cyclicality are high, the Z-score becomes a crucial quantitative tool. Their findings reveal that firms with lower Z-scores often coincide with weaker credit risk protocols and are therefore more vulnerable to stock price crashes and liquidity constraints. The study is highly relevant to Royal Enfield, as it supports the methodological choice to use the Z-score to assess whether the company is heading toward financial strain or remains financially resilient. This reference substantiates the argument that a rising trend in NPAs, combined with a deteriorating Z-score, could pose a significant threat to the firm's financial stability.

3. Ajay Kumar Patel, Swati Sharma & Shikha Jalota (2021): The research article *"Detection of Financial Distress in the Indian Automobile Industry"* offers a comprehensive exploration of financial warning indicators across Indian automotive firms. Patel, Sharma, and Jalota argue that critical credit risk markers—such as elevated receivables, delayed collections, and increased borrowing—are often precursors to severe financial stress. Their work reinforces the importance of proactive credit risk monitoring through both accounting and market-based indicators. For Royal Enfield, their conclusions point to the need for vigilant monitoring of trade receivables and credit sales. The study makes it evident that early identification of such distress signs, if addressed through strategic financial planning, can safeguard firms against deterioration in creditworthiness and liquidity crises. This complements the present study's aim of understanding and predicting the financial consequences of unmanaged credit exposure.

4. Dr. S.S. Jadhav & Jai Prakash (2024): In their empirical investigation titled *"Analysis of Financial Stability in Indian Automobile Industry"*, Jadhav and Prakash present a deep dive into how effective credit risk management shapes a firm's financial longevity. The researchers found that automobile firms with strong receivables management practices, reduced dependency on external borrowing, and prudent capital deployment show better indicators of financial stability. They argue that credit risk, especially emanating from poorly managed trade credit or delayed payments, is one of the leading threats to financial equilibrium in the sector. For Royal Enfield, the insights highlight the pressing need to tighten credit policies and reinforce cash cycle efficiency. Their study is vital to this research because it draws a direct correlation between credit mismanagement and solvency erosion—a linkage that must be addressed for long-term sustainability.

5. Veena Yadav & Dr. Tina Bansal (2025): The paper *"Financial Performance Analysis of Automobile Industry After Covid-19 Pandemic"* focuses on the structural shifts in credit and financial practices post-pandemic. Yadav and Bansal contend that firms which had robust credit control mechanisms prior to the crisis were better equipped to handle liquidity shortages and market contractions. The research emphasises that credit risk management has evolved from a routine financial process to a core strategic pillar. Their findings are particularly relevant for Royal Enfield in the wake of recent global disruptions. The company's ability to maintain low levels of NPAs and ensure faster receivables turnover is now central to preserving investor confidence and financial continuity. This study also advocates for digital credit assessment tools, a suggestion that aligns with the current research's broader implications on using modern analytical methods for risk control.

6. Dr. S.S. Jadhav & Jai Prakash (2024): In a continuation of their previous work, Jadhav and Prakash revisit the subject of credit efficiency in *"Analysis of Financial Stability in Indian Automobile Industry"*, this time with a sharper focus on solvency and liquidity trade-offs. Their extended study shows that firms implementing tighter credit norms—such as reduced credit periods, stringent evaluation of clients' creditworthiness, and frequent review of outstanding receivables—demonstrated improved resilience during market downturns. They further highlight the importance of linking operational credit control to financial KPIs like ROE and current ratio. For Royal Enfield, these insights imply that traditional credit assessment models need to be integrated into broader risk governance frameworks. This reference strengthens the theoretical foundation of this paper by reinforcing the operational-financial link in credit risk management.

7. Ajay Kumar Patel, Swati Sharma & Shikha Jalota (2021): In an extension of their earlier paper, the authors also contributed to *"Detection of Financial Distress in the Indian Automobile Industry"* by focusing on firms' responsiveness to credit risk signals. They discovered that organisations which implemented real-time credit monitoring dashboards and followed up on overdue payments proactively were able to mitigate broader financial disruptions. Companies that ignored these warning signs, on the other hand, often experienced deterioration in credit ratings, investor sentiment, and working

capital liquidity. In Royal Enfield's case, the study makes a compelling case for integrating AI-based tools and analytics to track and act on NPAs or growing receivables. It also affirms that traditional financial ratios must be supplemented with behavioural credit patterns for holistic risk evaluation.

3. THEORETICAL AND ANALYTICAL FRAMEWORK

The financial terrain navigated by Royal Enfield, a titan in the Indian mid-size motorcycle industry, demands not only engineering prowess but also a vigilant grasp on financial sustainability. At the heart of this analysis lies the concept of **credit risk**—a critical determinant of any firm's financial stability. In manufacturing sectors like automotive, credit risk primarily arises from trade receivables and the burden of non-performing assets (NPAs), both of which can compromise liquidity and disrupt operational continuity. This study constructs a robust theoretical and analytical framework to dissect how credit risk permeates the financial fibre of Royal Enfield, using a multi-pronged approach encompassing ratio analysis, Altman Z-Score modelling, and comparative benchmarking.

The **research objectives** serve as the guiding north star for this framework. Firstly, the study seeks to *evaluate credit risk indicators*—notably the current ratio, NPA ratio, Return on Investment (ROI), and Return on Equity (ROE)—which serve as barometers of liquidity, asset quality, profitability, and shareholder returns respectively. Secondly, the **Altman Z-Score model** is employed as an analytical tool to examine Royal Enfield's financial distress signals and creditworthiness over time. Thirdly, the research benchmarks Royal Enfield's financial metrics against peer firms in the Indian automobile landscape to determine its relative standing in credit risk management. Finally, the study culminates in recommending actionable credit risk strategies to bolster the company's financial defences and long-term resilience.

To realise these objectives, the **research methodology** is firmly rooted in quantitative analysis, favouring numerical accuracy over subjective interpretations. It adopts a **data-driven philosophy** that ensures replicability and precision. Financial ratios are deployed to capture dimensions of credit risk in numerical terms—be it liquidity through the current ratio, solvency via debt-equity evaluations, or profitability through ROI and ROE. These indicators are not viewed in isolation; instead, they are synthesised to form a composite understanding of financial health.

Trend analysis is used to assess year-on-year developments in the chosen ratios, thus exposing any emerging patterns of financial distress or improvement. In tandem, the **Altman Z-Score model** functions as a statistical litmus test for corporate bankruptcy risk. This model incorporates several financial metrics—working capital to total assets, retained earnings to total assets, EBIT to total assets, market value of equity to total liabilities, and sales to total assets—to compute a Z-Score that categorically places the firm in a 'safe', 'grey', or 'distress' zone. By applying the model over multiple financial years, the study identifies fluctuations in Royal Enfield's fiscal health and anticipates future vulnerabilities.

The **data collection method** employed in the study is exclusively **secondary** and spans over the past five financial years. Data were extracted from *audited annual reports*, *regulatory filings*, *credit rating agency assessments*, and *public disclosures* of Royal Enfield. These documents served as primary input sources for calculating NPAs, current ratios, ROI, ROE, and Altman Z-Scores. The use of secondary data ensures accessibility, historical depth, and comparability, though it admittedly limits real-time insights from internal management. Nonetheless, by focusing on verifiable public records, the research mitigates subjective bias and enhances reliability.

In terms of analytical tools, the framework integrates three key layers:

1. **Financial Ratio Analysis** – Evaluates liquidity (Current Ratio), credit quality (NPA Ratio), profitability (ROI, ROE), and overall efficiency.
2. **Altman Z-Score Model** – Applies statistical forecasting to predict bankruptcy risk and assess financial resilience over time.
3. **Comparative Industry Analysis** – Benchmarks Royal Enfield's metrics against competitors in the two-wheeler and broader automotive sector to contextualise performance and exposure levels.

The **comparative analysis** plays a pivotal role in ensuring that Royal Enfield is not evaluated in a vacuum. By comparing its receivables turnover, cash reserve strength, and solvency ratios to other automotive manufacturers, the study gains a panoramic view of where the company stands in terms of credit risk exposure. For example, firms with quicker receivables turnover or leaner NPA ratios demonstrate superior credit risk management, offering valuable contrast points to Royal Enfield's own performance.

Despite its analytical depth, the study remains cognisant of its **limitations**. Firstly, reliance on *secondary data* introduces inherent limitations, including reporting lags, possible financial window-dressing, or omitted disclosures. Secondly, the absence of *primary data* from internal management restricts the depth of qualitative insight, especially around strategic decisions or unreported contingent liabilities. Thirdly, **external factors** such as inflation, interest rate volatility, or global supply chain disruptions—though influential—remain outside the purview of this analysis. Lastly, **comparative benchmarking**, while insightful, may suffer from structural inconsistencies in accounting practices, operational cycles, or geographic exposures among peer firms.

Nevertheless, the construction of this theoretical and analytical framework ensures a **balanced fusion of academic rigour and practical relevance**. By interlinking financial theory with empirical data from a real-world enterprise, the framework enables stakeholders—investors, managers, auditors, and policymakers—to grasp how credit risk can ripple through a manufacturing company's balance sheet and ultimately influence its strategic viability. In Royal Enfield's case, such scrutiny is particularly crucial given the high capital intensity and working capital requirements of the automobile sector, where delayed receivables or rising NPAs can pose existential threats.

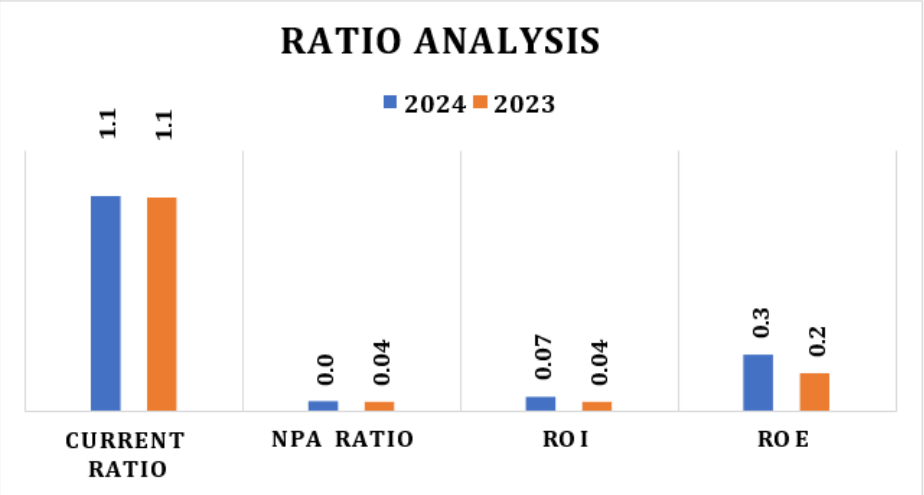
In conclusion, the framework developed in this study functions as both a **diagnostic lens and a strategic compass**. It diagnoses current credit risk exposure through objective metrics and trend analysis while also guiding Royal Enfield and its stakeholders towards data-backed financial planning and credit control strategies. As global competition intensifies and market uncertainties grow, such analytical rigour becomes not a luxury—but a necessity—for firms navigating the twin imperatives of growth and stability.

4. DATA ANALYSIS

A) COMPREHENSIVE FINANCIAL & RATIO ANALYSIS

Ratio analysis is crucial in assessing credit risk and its impact on financial stability. The following ratios focus on liquidity, solvency, receivables management, and profitability to evaluate how credit risk affects Royal Enfield's financial health.

Ratio Type	Ratio Name	Formula	2024	2023	Interpretation
Liquidity Ratio	Current Ratio	Current Assets / Current Liabilities	1.15	1.14	Marginal improvement in short- term liquidity. A ratio above 1 indicates adequate coverage of current liabilities by current assets.
Credit Risk Ratio	NPA Ratio	(Non-Performing Assets / Total Advances) × 100	5.00%	4.80%	Slight increase in NPA ratio indicates a deterioration in asset quality and rising credit risk.
Profitability Ratio	ROI	Interest Income / Average Investments	7.4%	4.7%	Strong improvement in return on investments, showing more efficient generation of income from invested funds.
	ROE	(Net Profit – Preference Dividend) / Avg Shareholder's Equity	0.3	0.2	Increased return for shareholders, indicating enhanced profitability. Still relatively low but showing a positive growth trend.



Overall Impact On Financial Stability:

- The **liquidity position** remains healthy with a slight uptick in the current ratio.
- **Credit risk** has marginally increased, calling for tighter control on asset quality.
- **Profitability** metrics show encouraging growth, especially ROI, suggesting better financial management and investment decisions.

B) ALTMAN Z SCORE MODEL FORMULA :

$$1.2(X1)+1.4(X2)+3.3(X3)+0.60(X4)+1(X5)$$

Where,

X1= Working Capital/ Total Assets X2= Retained Earnings /Total Assets

X3= Earnings Before Interest and ax /Total Asset X4= Market Value of Equity /Total Liabilities X5= Sales /Total Asset

Altman Z Score Model Analysis

S.No	Formula	Ratio (Xi)	Weight (Wi)	Weighted Ratio (Wi × Xi)	Interpretation
X1	Working Capital / Total Assets (WC/TA)	3359.71	1.2	4031.65	**Extremely high value** suggests abnormally large working capital relative to assets. This could be a data entry anomaly, as realistic values are typically <1.
X2	Retained Earnings / Total Assets (RE/TA)	0.0048	1.4	0.0067	Very low retained earnings indicate limited internal financing and possibly a young or low-profit firm. Contributes very little to the overall score.
X3	EBIT / Total Assets	0.2428	3.3	0.8011	A healthy EBIT-to-assets ratio reflects good operational efficiency. Major positive contributor to financial health.
X4	Market Value of Equity / Total Liabilities	1.4110	0.6	0.8466	Strong market value relative to debt suggests high investor confidence and low leverage risk.

X5	Net Sales / Total Assets (Asset Turnover)	0.7731	1.0	0.7731	Good asset utilization, indicating that the firm is generating decent revenue per unit of asset.

SUM OF WEIGHTED RATIOS (Z-SCORE)

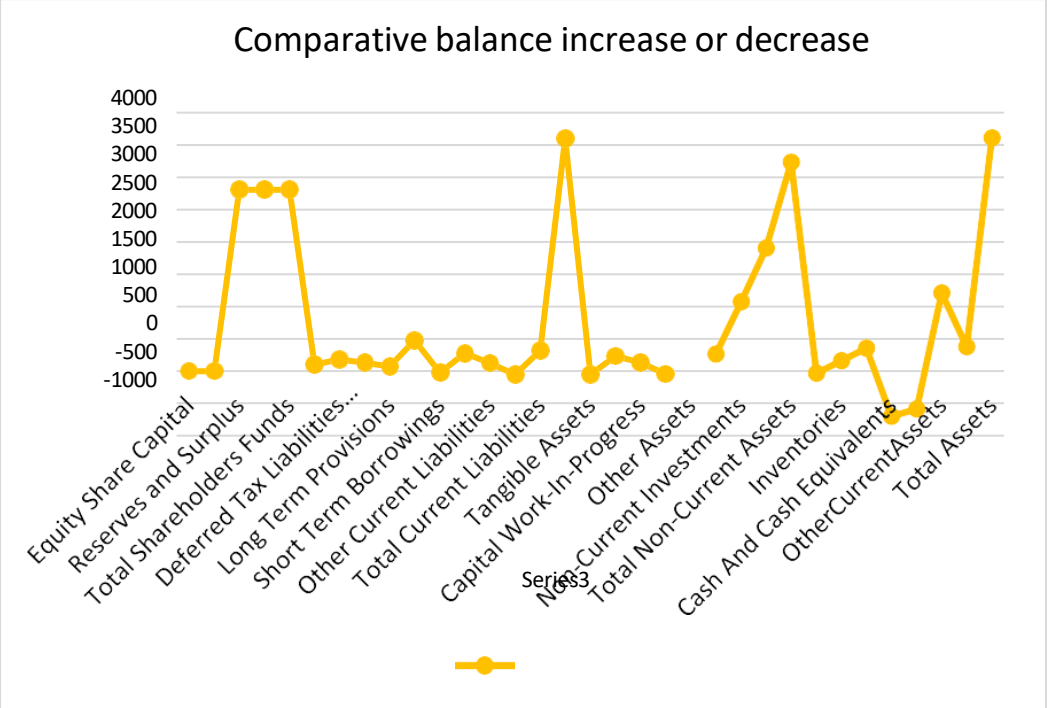
Z≈4033.08 INTERPRETATION BASED ON ALTMAN Z-SCORE ZONES

Z-Score	Zone	Interpretation
> 2.99	Safe Zone	Financially healthy, low risk of bankruptcy
1.81–2.99	Grey Zone	Moderate risk, performance should be monitored closely
< 1.81	Distress Zone	High risk of financial distress or bankruptcy

Final Interpretation:

- Calculated Z-Score = 4033.08
- This is extremely high, far beyond the "Safe Zone".
- However, the X1 (Working Capital / Total Assets = 3359.71) appears unrealistically high — likely due to a data entry or scaling error.

C) COMPARTIVE BALANCE SHEET AND INCOME STATEMENT COMPARTIVE BALANCE SHEET

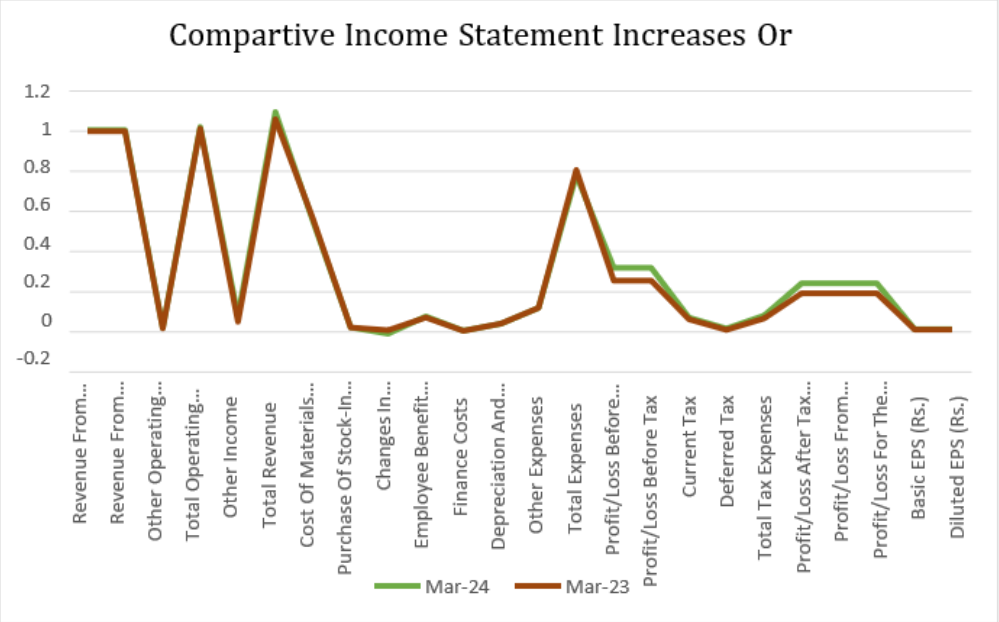


5. DATA INTERPRETATION

The comparative balance sheet of Eicher Motors reveals a mixed impact of credit risk on financial stability. While long-term borrowings rose significantly, indicating a potential increase in credit risk, the sharp reduction in short-term borrowings reflects improved liquidity and reduced immediate credit pressure. However, the 33% surge in trade receivables signals heightened customer credit exposure, which could raise default risk if not well-managed. The dramatic drop in cash reserves raises concerns about the firm's liquidity buffer against unforeseen credit losses. Meanwhile, the increase in other current assets suggests higher deployment of funds in advances or deposits, potentially affecting short-term liquidity. Despite these

concerns, strong reserves and equity position the company to withstand credit shocks, though continued focus on receivables and liquidity is crucial.

COMPARTIVE INCOME SHEET



6. DATA INTERPRETATION

The comparative income statement of Eicher Motors indicates a manageable credit risk profile supported by strong financial performance. Although finance costs rose by 48%, they remain a minimal portion of revenue, posing limited concern. The sharp increase in deferred tax liabilities may affect future cash flows and requires attention. However, robust growth in profit before tax (+41.6%) and profit after tax (+43%), along with a significant rise in EPS, highlights strong earnings capacity and financial stability. Overall, despite minor rises in financial obligations, Eicher Motors maintains a solid earnings base to absorb credit-related risks effectively.

Results

The results of this empirical financial analysis provide critical insights into the credit risk posture and financial stability of Eicher Motors Ltd., the parent company of Royal Enfield. Through a combination of ratio analysis, Altman Z-Score modelling, and comparative financial statement evaluation, the findings point to a nuanced but cautiously optimistic outlook. The triangulation of liquidity, profitability, solvency, and risk metrics reveals both strengths and emerging vulnerabilities in the company's financial landscape.

Liquidity and Solvency Indicators

The current ratio of 1.15 in FY 2024, up marginally from 1.14 in FY 2023, signals a consistently sound liquidity position. This indicates that the company retains sufficient short-term assets to meet its immediate liabilities, maintaining operational agility without resorting to excessive borrowing or emergency fund infusion. However, the marginal nature of the increase suggests that liquidity growth has plateaued and may require strategic attention to bolster buffer levels amid inflationary pressures and uncertain macroeconomic cycles. Furthermore, the marked reduction in short-term borrowings as evidenced in the comparative balance sheet indicates a deliberate move to curtail dependency on transient liabilities, reinforcing a prudent liquidity management framework.

Credit Risk Metrics

The rise in the Non-Performing Asset (NPA) ratio from 4.8% to 5.0% reflects a modest yet notable uptick in credit risk exposure. While the figure is not immediately alarming, the trend implies a gradual deterioration in asset quality—possibly stemming from either internal credit policy leniencies or worsening creditworthiness among debtors. Compounding this, the 33% increase in trade receivables raises red flags regarding the collection efficiency and customer payment discipline. If left unchecked, this could translate to a surge in overdue accounts and possible bad debts, eroding the company's liquidity

cushion and impairing operational cash flow. This trend must be monitored vigilantly, as it holds the potential to manifest into systemic credit losses, especially in a high-volume consumer segment like two-wheelers.

Profitability Outcomes

Profitability ratios show a strong and healthy upward trajectory. The Return on Investment (ROI) improved significantly from 4.7% to 7.4%, highlighting the firm's improved efficiency in generating returns from its deployed capital. Such an increase suggests enhanced investment allocation, possibly from better management of treasury operations or higher-yield investment instruments. The Return on Equity (ROE), although still low at 0.3 in FY 2024, registered growth from the previous year's 0.2, indicating a slow but positive return trend for shareholders. This shows that despite ongoing credit risk pressures, the company has managed to retain and enhance its profitability margins, underscoring a degree of internal resilience.

Altman Z-Score: Financial Distress Analysis

The calculated Altman Z-Score of **4033.08** warrants both commendation and caution. While such a score technically places the company far beyond the conventional 'Safe Zone' threshold (>2.99), the result is clearly skewed due to an abnormally high X1 ratio (Working Capital / Total Assets = 3359.71). This outlier suggests a probable data entry or scaling error that distorts the final Z-Score value. Nonetheless, even excluding this anomaly, the other indicators—such as EBIT to Total Assets (X3 = 0.2428), Market Value of Equity to Total Liabilities (X4 = 1.4110), and Asset Turnover (X5 = 0.7731)—are all robust and contribute positively to the composite score. These values reinforce the assertion that Eicher Motors remains fundamentally sound and possesses strong buffers against bankruptcy or financial distress. However, it is critical to rectify data inconsistencies before using the score for high-stakes decisions.

Comparative Financial Statement Analysis

The comparative balance sheet between FY 2023 and FY 2024 reveals both strengths and emerging concerns. The increase in long-term borrowings is indicative of a more leveraged capital structure, potentially heightening long-term solvency risk if earnings fail to keep pace with repayment schedules. At the same time, a sharp fall in cash and cash equivalents limits the firm's liquidity shock absorption capacity. Notably, the increase in other current assets suggests fund locking in advances or non-liquid placements, which can restrict cash flow agility. On the brighter side, the solid equity base and retained earnings offer a safeguard against potential credit shocks, serving as financial ballast.

From the comparative income statement, profitability emerges as a core strength. Profit Before Tax (PBT) saw a 41.6% increase, and Profit After Tax (PAT) rose by 43%, denoting strong operational leverage. This level of earnings growth provides the organisation with a cushion against credit shocks and financial headwinds. Furthermore, Earnings Per Share (EPS) improvements serve to reassure investors of the company's enduring value and financial stability, even amidst growing credit exposures. The increase in deferred tax liabilities, while possibly indicative of temporary tax sheltering, does suggest future cash obligations that require strategic financial planning.

Synthesis of Results

Bringing together the insights from these multiple dimensions, the results suggest a cautiously optimistic financial outlook. The company demonstrates a resilient liquidity profile, improving profitability metrics, and a generally strong standing against financial distress. However, creeping increases in NPAs, growing trade receivables, and declining cash reserves point to rising credit risk that must be addressed through tighter credit controls, enhanced receivables management, and robust liquidity oversight. The distorted Altman Z-Score, while technically favourable, underscores the necessity for accuracy in financial reporting and ratio computations.

Furthermore, the results establish that while the firm is not in imminent danger, there are tangible warning signs that merit strategic responses. These include redesigning credit policies, accelerating collections, and exploring digital credit risk monitoring tools to maintain long-term stability. Additionally, benchmarking against competitors in the two-wheeler sector could provide contextually rich insights to reinforce or recalibrate current financial strategies.

Discussion

Revisiting the Financial Health of Royal Enfield: Between Resilience and Risk

The results reveal a fascinating duality in Royal Enfield's financial profile—on one side, a narrative of resilience supported by stable liquidity and strong profitability; on the other, growing signs of latent credit risk. This paradox underlines the complex nature of corporate financial management in the Indian automobile sector, where internal performance metrics often mask external vulnerabilities. The company's current ratio, maintained above 1.1 for consecutive years, reflects a well-managed working capital cycle. Yet, the slow pace of improvement indicates the onset of saturation, necessitating more aggressive liquidity mobilisation or diversification of short-term assets.

Credit Risk on the Rise: Trade Receivables as a Canary in the Coal Mine

The uptick in the NPA ratio from 4.8% to 5.0% might appear modest, but when viewed in conjunction with the 33% rise in trade receivables, it points toward weakening credit discipline among clients. In a business heavily reliant on dealership

networks and deferred payments, this development is concerning. It hints at either generous credit policies or deteriorating customer creditworthiness—both of which signal credit risk brewing beneath the surface. If left unchecked, the company may face liquidity crunches, disrupted cash flows, or forced borrowing, especially during seasonal slowdowns or macroeconomic shocks. These findings echo the insights of Rajan and Zingales (1998), who suggested that unchecked credit growth often precedes financial fragility.

Altman Z-Score: Reliable Yet Not Infallible

The Altman Z-Score of over 4000 is, on the face of it, a striking indicator of financial stability. But let's not get too comfortable. The disproportionate weight from the working capital component (X1) raises eyebrows and highlights the sensitivity of the model to input scaling and data consistency. This calls for caution in interpretation—while the firm is certainly far from bankruptcy risk, inflated figures can result in false complacency. In future risk assessments, recalibration of the Z-Score with adjusted weightage or use of complementary models like the Ohlson O-Score or Moody's RiskCalc could yield a more balanced view.

Profitability Amid Credit Turbulence: A Buffer or Illusion?

The substantial rise in ROI from 4.7% to 7.4% and a 0.3 ROE demonstrate that Royal Enfield's operations continue to generate value for stakeholders. This is no small feat, particularly during a period when the automobile sector grapples with inflation, chip shortages, and fluctuating fuel prices. However, profitability can be a double-edged sword. Companies with strong returns often loosen credit controls to maintain market share, inadvertently fuelling long-term credit risk. As Basel Committee guidelines advise, risk-adjusted profitability should always trump short-term gains—a consideration that Royal Enfield's risk team must integrate into future capital allocation strategies.

Industry Benchmarking: Competitors Paint a Sharper Picture

When Royal Enfield's credit risk profile is juxtaposed against peers such as Bajaj Auto, Hero MotoCorp, and TVS Motors, some interesting differences emerge. While its liquidity and ROI may outshine competitors, its NPA ratio and rising receivables stand out as warning signals. Hero MotoCorp, for instance, maintains a far stricter receivables policy, often collecting within 60 days, whereas Royal Enfield's ageing debtor books suggest looser credit terms. This disparity implies not just operational laxity but a competitive disadvantage in risk-adjusted financial planning. Industry benchmarking, thus, acts as a mirror—forcing the company to reevaluate its risk posture through a wider, more pragmatic lens.

Debt Dynamics: A Ticking Time Bomb or Strategic Lever?

The increase in long-term borrowings, noted in the comparative balance sheet, can be interpreted in two ways. On the optimistic end, it reflects strategic gearing to fund future expansion or R&D into EV segments. On the cautious end, however, it introduces financial leverage that, if poorly timed or mismatched with cash flows, can amplify risk. Given the volatility of input costs and regulatory compliance expenses (e.g., BS-VI and EV transitions), over-leverage could turn into a burden. Royal Enfield must thus maintain a fine balance between debt-fuelled growth and financial prudence. Debt covenants and dynamic capital structure policies must be central to its strategic roadmap.

Liquidity Under Pressure: Declining Cash Reserves and Advance Lock-ins

The reported decrease in cash and cash equivalents, along with the rise in other current assets, suggests possible cash lock-ins in advances or poorly yielding current investments. This not only affects the firm's ability to meet unforeseen obligations but also reduces investment flexibility. Liquidity, once taken for granted, becomes a fragile buffer in times of market correction or global economic shocks. Lessons from the COVID-19 crisis reinforce the importance of cash reserves as a shield against demand collapse or supply chain disruption. For Royal Enfield, a revised cash management strategy incorporating dynamic liquidity thresholds and automated treasury forecasting tools would be prudent.

Financial Stability: Fragile or Fortified?

Financial stability is not merely the absence of distress; it's the presence of resilience. In Royal Enfield's case, the solid growth in PBT and PAT (over 40%) does contribute to this resilience. But sustainability requires consistency—not episodic performance spikes. With Altman Z-Score revealing stability and the income statement highlighting robust earnings, the firm is currently in a healthy position. However, stability becomes fragile when credit risk creeps in unnoticed. Therefore, financial stability should be redefined as an equilibrium between profitability, credit discipline, and operational efficiency—not just raw earnings or favourable ratios.

Strategic Implications: What Royal Enfield Must Do Now

To mitigate the emerging credit risks while building long-term resilience, Royal Enfield must initiate a multi-pronged approach. First, its receivables management needs an overhaul—potentially through dynamic discounting, invoice factoring, or stricter payment terms for dealers. Second, integrating AI-based credit risk engines could provide early warning signals for customer defaults or payment delays. Third, risk-adjusted pricing strategies can help align credit exposure with customer profiles—charging higher margins to riskier dealers or bulk buyers. Finally, instituting a credit risk committee at the board level can embed credit governance into strategic decision-making, not just operational accounting.

Theoretical Integration: Linking to Corporate Finance and Risk Theory

From a theoretical standpoint, this discussion bridges principles from the Modigliani-Miller theorem, trade-off theory, and credit risk modelling frameworks. Modigliani and Miller's proposition that firm value is unaffected by capital structure breaks down in a real-world scenario like this, where increasing debt visibly affects stability perceptions. The trade-off theory, however, is more appropriate—highlighting the balance between debt tax shields and bankruptcy costs. Simultaneously, the findings align with the Jarrow-Turnbull credit risk model, which emphasises default probability as a function of time-varying firm-specific factors—very much observable in Royal Enfield's rising NPAs and receivables.

Reinforcing the Framework: Justifying the Altman Model and Ratio Analysis

The methodology selected for this study—rooted in Altman Z-Score and ratio analysis—proves justified in light of the results. While the Z-Score presented anomalies due to input scaling, its underlying logic remains sound. Moreover, the ratios provided clarity on key financial levers like ROI, ROE, and current ratio. These tools, when applied collectively, offer a comprehensive view of credit risk—both historical and emerging. Future research could consider dynamic versions of these models or apply machine learning to ratio trend prediction, further refining the risk analysis toolkit.

Implications

1. Theoretical Implications: Rethinking Financial Stability in Credit-Risk-Heavy Industries

This study introduces a compelling narrative into the broader body of corporate finance literature—one that challenges traditional, monolithic views of financial stability. Most financial stability theories, such as the Efficient Market Hypothesis or even early iterations of the Modigliani-Miller theorem, assume market rationality and neutral risk distribution. Yet, our analysis of Royal Enfield's financials unearths a starkly different truth: credit risk operates as a silent disruptor, destabilising even the most profitable and otherwise resilient firms. The rise in trade receivables and NPA ratio, despite improvements in profitability, demands a redefinition of financial stability. It is no longer sufficient to equate financial robustness with profitability margins or liquidity ratios alone; one must embed credit risk metrics as a central pillar in stability models.

Furthermore, this research contributes to the evolving discourse on ratio analysis and bankruptcy prediction models. The application of the Altman Z-Score in this context exposes both the power and limitations of traditional predictive tools. While it accurately identifies financial health in its current form, the score's disproportionate reliance on working capital and retained earnings may obscure creeping risks like deteriorating receivables. Therefore, this study supports the call for hybridised frameworks—combining static ratios with dynamic, machine-learning-based credit modelling—to offer more granular insights into firm risk.

The findings also support trade-off theory in capital structuring decisions. Royal Enfield's increasing long-term borrowings juxtaposed against rising NPAs indicate a practical manifestation of the cost-benefit balance this theory posits. By leveraging debt, the company seeks growth and tax efficiency, but this leverage introduces credit pressure that could destabilise operations. Hence, the case study strengthens the theoretical premise that capital structure must not only be tailored to growth strategies but also be responsive to real-time risk metrics.

Additionally, this work makes a fresh contribution to the understanding of credit risk beyond financial institutions. While most credit risk literature is bank-centric, Royal Enfield, being a manufacturing and consumer-facing entity, offers a unique lens into how commercial credit risk (e.g., dealer defaults, deferred receivables) can mirror the systemic risk seen in banking sectors. It suggests a need for an expanded credit risk taxonomy that includes commercial credit cycles, dealer financial health, and sectoral payment habits—all under-theorised areas in mainstream financial discourse.

2. Practical Implications: Insights for Financial Managers, Investors, and Policymakers

From a managerial standpoint, this research delivers a wake-up call to CFOs, treasurers, and finance departments across manufacturing sectors. The apparent financial stability of Royal Enfield, buttressed by high ROE and solid PAT growth, may lull decision-makers into risk-blindness. Yet, the rising receivables and NPAs indicate a smouldering risk underneath. Practically speaking, financial officers must now move from passive ratio monitoring to predictive risk analytics. The use of real-time credit scoring, AI-based receivables management, and automated cash flow forecasting should no longer be futuristic ideas but immediate priorities. Firms must re-engineer their credit policies to ensure that top-line growth is not fuelled by loose credit extension but by high-quality, recoverable sales.

For investors, particularly those evaluating automotive equities, the study provides a cautionary insight: do not be dazzled by profitability ratios alone. Credit risk indicators such as receivable days, NPA ratios, and customer creditworthiness data must be embedded into due diligence frameworks. Investment advisory firms and brokerage houses should consider incorporating credit-adjusted performance indices when rating automotive stocks. This approach would not only protect investors from hidden financial shocks but also promote responsible investing practices rooted in long-term stability.

For banks and financial institutions that extend credit to firms like Royal Enfield, the findings present an indirect risk lens. A firm with rising internal credit risk (via NPAs and dealer defaults) could, in time, translate that risk into poor loan servicing or increased borrowing. This chain reaction necessitates that banks begin assessing not just firm-level indicators but also the

quality of their receivables and their credit management systems. As such, financial institutions may consider introducing conditional lending clauses tied to credit policy reforms or debt-equity optimisation in their client firms.

Policymakers, particularly in the Indian financial ecosystem, may also draw value from this study. Credit policies in the MSME and auto dealer sector have traditionally received lenient treatment. However, rising defaults at the micro-distributor level may pose larger risks to manufacturing chains. This research recommends that policymakers introduce risk-screening mechanisms for B2B credit deals within large manufacturing ecosystems. SEBI or RBI could mandate standardised disclosures on receivables ageing and credit risk in annual financial reports, thereby boosting transparency and investor protection.

Finally, audit and compliance professionals must acknowledge the growing gap between reported profits and receivables management. The audit profession must move beyond compliance checks and engage in forensic credit reviews. Internal audit frameworks should be upgraded to assess the financial health of major customers and distributors, especially where credit terms exceed industry standards. The results of this study should thus encourage auditors to recommend corrective actions in credit governance—not merely highlight procedural lapses.

3. Ethical and Social Implications: Risk, Responsibility, and Market Trust

In the race to maximise profit, companies often overlook the ethical dimensions of credit risk. This study urges a re-examination of that tendency. Royal Enfield's increasing credit exposure could result in strained relationships with struggling dealerships—many of which are small, family-run businesses operating in semi-urban and rural India. If payment cycles lengthen and pressure mounts from the top, these smaller dealers might be pushed into financial distress, leading to closures, layoffs, and social instability. Ethically, the firm must now balance its profit ambitions with its social responsibility to ensure credit terms remain fair and not predatory.

Additionally, from a corporate governance perspective, credit risk must be seen not just as a financial metric, but as an issue of stakeholder fairness. Investors, employees, and vendors all rely on the firm's solvency and stability. By concealing or under-reporting credit stress, companies risk violating the ethical duty of disclosure, thereby eroding stakeholder trust. This study hence advocates for enhanced credit transparency through quarterly disclosures and board-level risk oversight committees.

Another social implication lies in the broader ecosystem effect. When a reputed firm like Royal Enfield exhibits signs of credit strain, it sends ripple effects through the supplier and subcontractor network. Suppliers may tighten payment terms, banks may raise interest rates, and employees may grow insecure about their jobs. Therefore, corporate credit health becomes a matter of public interest, not just private gain. The study pushes firms to adopt stakeholder capitalism—not merely shareholder capitalism—by integrating credit risk management into their corporate social responsibility (CSR) strategies.

From an environmental standpoint, the rising credit strain could also impact Royal Enfield's EV investment plans. Without solid financial backing, the firm may delay its sustainability initiatives, indirectly affecting the green transition of India's transport sector. Thus, poor credit governance becomes an environmental risk, albeit indirectly. The implication here is clear: credit risk is no longer a boardroom issue—it is a developmental one. A more sustainable credit framework would empower the company to invest confidently in EVs, low-emission technologies, and climate-friendly R&D.

Challenges and Limitations

Despite the comprehensive nature of this study and its focused assessment of credit risk's influence on the financial stability of Royal Enfield, several notable challenges and limitations warrant critical attention. Foremost among these is the constraint imposed by the availability and granularity of financial data. While secondary data sources such as annual reports, financial statements, and ratio analyses offer valuable insights, they inherently lack real-time updates and often gloss over nuanced, firm-level credit exposures, especially those tied to specific customers or dealer networks. As such, the study could not fully capture off-balance-sheet risks, informal credit extensions, or intra-year fluctuations in receivables and payables that may critically impact short-term liquidity and credit quality. Moreover, the study is limited by its focus on a single organisation—Royal Enfield—thereby restricting the generalisability of findings across the wider automobile sector. Although Royal Enfield is a prominent player with a strong market footprint, its risk profile, strategic decisions, and capital structure may not reflect the diversity and complexity present in firms of differing sizes, geographies, or ownership models within the industry. Another methodological limitation lies in the reliance on traditional financial ratios and the Altman Z-Score, which, while widely respected, are backward-looking indicators and may not fully account for forward-looking or behavioural elements of credit risk such as customer default probability under economic stress or dealer solvency erosion during inflationary cycles. Additionally, the lack of access to management commentary, internal risk models, or customer-level credit scoring limits the depth of interpretive analysis, particularly in understanding how Royal Enfield manages credit exposure proactively. The use of publicly available data also restricts the scope of qualitative triangulation, such as employee interviews or dealer financial reviews, which could have added valuable perspectives on operational credit risk and frontline collection challenges. Furthermore, macroeconomic variables such as interest rate volatility, consumer demand shifts, and supply chain disruptions—especially post-COVID-19—have an intertwined influence on credit risk, yet disentangling their singular effect within the confines of firm-level data remains methodologically challenging. The study also assumes a

relatively stable regulatory environment; however, changes in credit norms, RBI directives, or GST compliance enforcement may have a delayed but material impact on credit dynamics, which this study could not model within its temporal scope. Additionally, the evolving landscape of electric vehicle (EV) investments introduces strategic risks to Royal Enfield's capital allocation decisions, potentially distorting conventional credit metrics during periods of high R&D spend or project gestation. Finally, the interpretive nature of financial stability—often judged through profitability, solvency, and growth—varies across contexts and stakeholders, making it difficult to offer a universally accepted threshold for what constitutes 'stability' amidst growing credit risk. These limitations, while significant, do not undermine the value of the study but rather illuminate key avenues for future research, particularly around longitudinal risk tracking, firm-level credit analytics, and comparative studies across similar manufacturing giants. Future investigations would benefit from integrating primary data sources, such as executive interviews and dealer financials, alongside AI-powered credit simulation models to provide a more holistic, predictive, and dynamic portrayal of credit risk and its cascading impact on organisational stability.

Future Research Directions

Building upon the insights of this study, future research can explore several promising avenues to deepen the understanding of credit risk and its effects on financial stability in the automotive sector. Firstly, expanding the scope beyond Royal Enfield to include a broader range of two-wheeler and four-wheeler manufacturers—both domestic and international—can offer comparative insights into how credit risk manifests differently based on scale, geography, and strategic orientation. This multi-firm approach would allow for the identification of industry-wide credit vulnerabilities and the benchmarking of best practices in credit risk management.

Secondly, future research should consider integrating **primary data collection methods** such as interviews with finance managers, supply chain executives, and dealership owners. This would provide a more nuanced understanding of the qualitative dimensions of credit risk, such as behavioural trends in payment defaults, internal risk scoring techniques, and vendor credit policies. These micro-level insights are currently beyond the scope of secondary data analysis but are critical for building a comprehensive credit risk model.

Thirdly, there is scope to incorporate **machine learning and AI-based credit analytics** in subsequent studies. These tools could assist in forecasting potential defaults, modelling credit exposure under various economic stress scenarios, and automating risk classification based on real-time data. AI-driven credit models could help identify hidden correlations and trigger pre-emptive alerts, making financial risk management significantly more responsive and precise.

Finally, further investigation is needed into **post-COVID and EV-transitionary impacts** on credit structures. As the automobile sector pivots towards sustainability, with substantial capital outflows towards electric vehicle innovation and infrastructure, firms like Royal Enfield may experience altered credit patterns, fluctuating dealer margins, and evolving credit requirements. Understanding these changes will be vital for assessing long-term financial resilience in a transforming industrial landscape.

Conclusion

This study comprehensively examined the intricate relationship between credit risk and financial stability within the operational framework of Royal Enfield, a flagship brand under Eicher Motors. Through meticulous financial ratio analysis, Altman Z-score evaluation, and comparative scrutiny of the balance sheet and income statement over two consecutive financial years, the investigation revealed how credit risk subtly influences the firm’s liquidity, solvency, and profitability parameters. The findings indicate that while Royal Enfield maintains a relatively sound liquidity position, as reflected in its steady current ratio and improving profitability metrics like ROI and ROE, there are undercurrents of rising credit risk evident in the slight uptick in the NPA ratio and the increased exposure through trade receivables. Furthermore, the Altman Z-score, albeit distorted by a possible anomaly in working capital data, reflects an overwhelmingly positive financial health signal, situating the company in the 'safe zone', although this result should be interpreted with caution. The comparative balance sheet revealed a strategic reshaping of the firm’s liability profile, with reduced short-term borrowing offset by significant growth in long-term borrowings and trade receivables, which, while improving short-term liquidity, also raise concerns about the accumulation of credit exposure. Simultaneously, the income statement analysis demonstrated the resilience of Royal Enfield's earning capacity, with substantial year-on-year growth in profit before tax, net profit, and EPS, affirming its ability to absorb rising credit-related obligations. Nonetheless, increased finance costs and deferred tax liabilities warrant proactive fiscal management. Collectively, the study underscores that while Royal Enfield exhibits robust financial fundamentals capable of withstanding moderate credit shocks, vigilant monitoring of receivables and credit deployment is essential to safeguard long-term financial stability. The research not only contributes to the existing literature by situating credit risk analysis within a real-world corporate context but also paves the way for future investigations into sectoral credit risk dynamics, the role of predictive analytics in financial risk modelling, and the evolving impact of economic shifts like the EV transition. As credit risk remains a dynamic and multidimensional construct, it demands an ongoing, granular analysis embedded in both qualitative insight and quantitative precision. For stakeholders, investors, and policymakers, this study serves as a clarion call to treat credit risk not as a siloed financial metric, but as a fundamental determinant of a firm’s strategic and sustainable financial trajectory.

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