Major Research Project

The Impact of Capital Structure on Profitability: Evidence from Indian FMCG Firms

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CERTIFICATE

This is to certify that Ankit Joshi, 2k23/DMBA/021 has submitted the project dissertation report titled "The Impact of Capital Structure on Profitability: Evidence from Indian FMCG Firms" in partial fulfilment of the requirements for the award of the degree of Master of Business Administration (MBA) from Delhi School of Management, Delhi Technological University, New Delhi during the academic year 2024-25.

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DECLARATION

I, Ankit Joshi student of Delhi School of Management, Delhi Technological University hereby declare that the Project Dissertation Report on "The Impact of Capital Structure on Profitability: Evidence from Indian FMCG Firms" submitted in partial fulfilment of the requirements for the award of the degree of Master of Business Administration (MBA) is the original work conducted by me. I also confirm that neither I nor any other person has submitted this project report to any other institution or university for any other degree or diploma. I further declare that the information collected from various sources has been duly acknowledged in this project.

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I would like to acknowledge that this project was completed entirely by me and not by someone else.

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TITLE OF RESEARCH PAPER

"The Impact of Capital Structure on Profitability: Evidence from Indian FMCG Firms"

ABSTRACT

This research investigates the connection between capital structure and profitability in the Indian Fast-Moving Consumer Goods (FMCG) sector, utilizing panel data spanning from 2015 to 2024. The core objective is to assess the effect of the debt-to-equity ratio (DER) on firm profitability, which is measured through indicators such as Return on Assets (ROA), Return on Equity (ROE), and Net Profit Margin (NPM). The study employs various multivariate analytical tools, including correlation analysis, MANOVA, and MANCOVA, to evaluate how capital structure influences profitability while accounting for variables like firm size, sales growth, and asset turnover.

The results highlight that the link between capital structure and profitability is neither linear nor uniform. While some companies—such as Nestlé and Hindustan Unilever Limited (HUL)—effectively utilize higher levels of debt to enhance profitability, others, including Patanjali and Varun Beverages, face fluctuations in profitability due to elevated leverage. On the other hand, firms like ITC demonstrate that a more conservative, equity-oriented capital structure can also yield strong financial performance. These insights indicate that capital structure alone is not a definitive predictor of profitability; factors like operational efficiency, scale, and competitive positioning play more decisive roles.

The study supports aspects of financial theory, notably the Trade-off Theory and Pecking Order Theory. It shows that companies with consistent cash flows can leverage debt to their advantage, whereas firms with unstable financials may find high debt burdens detrimental. The paper concludes that decisions related to capital structure must be approached strategically, taking into account both macroeconomic trends and firm-specific characteristics. The study offers valuable recommendations for Indian FMCG firms, emphasizing the importance of aligning capital structure with operational and strategic efficiency to achieve optimal profitability.

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1. PROBLEM BACKGROUND

1.1 Introduction to the FMCG sector in India

The Fast-Moving Consumer Goods (FMCG) industry has significantly contributed to India's economic progress. This sector comprises essential everyday items including food and beverages, personal hygiene products, household necessities, and over-the-counter medicines. Because these goods are frequently used, their demand remains steady, making the FMCG sector relatively resilient to economic downturns.

India's FMCG sector had experienced steady growth over the past few decades. Factors such as rising disposable income, urbanization, lifestyle changes, and increased awareness about hygiene and health contributed to the sector's expansion. Additionally, the penetration of internet services and the growth of e-commerce platforms had enabled FMCG companies to reach a broader consumer base, including rural markets.

This growth potential has attracted substantial interest from both domestic and global firms. Leading companies such as Hindustan Unilever, ITC, Nestlé India, Dabur, and Britannia have established strong market footholds. Furthermore, government initiatives like the implementation of the Goods and Services Tax (GST), the "Make in India" movement, and improvements in rural infrastructure have provided additional support to the sector.

By 2024, the FMCG industry had become one of the largest sectors in India, both in terms of revenue and employment. Despite challenges such as inflation, supply chain disruptions, and changing consumer preferences, the sector continued to evolve with innovation, digitization, and sustainable practices.

1.2 Sectoral financial characteristics

The Indian Fast-Moving Consumer Goods (FMCG) industry holds a distinct place within the national economy, primarily due to its unique financial structure and operational model. A key feature of FMCG companies is their relatively low dependence on capital-intensive assets. Unlike sectors that demand significant investments in infrastructure or machinery, FMCG businesses typically operate with modest fixed asset requirements. Their strategies centre on producing fast-selling consumer products and ensuring wide distribution through comprehensive retail networks. As a result, financial priorities in this sector tend to focus more on managing working capital, streamlining supply chains, and investing in strong brand development.

This leads to a capital structure that is often less reliant on long-term debt financing. Due to high product velocity and predictable demand patterns, FMCG firms benefit from short cash conversion cycles, meaning they convert their investments in inventory into sales and cash flows more rapidly than capital-intensive industries. As a result, these companies often fund operations through internally generated funds or short-term borrowings rather than accumulating long-term debt.

Furthermore, the sector operates in a highly competitive and price-sensitive environment, which puts pressure on profit margins. Maintaining liquidity and operational efficiency is more critical than leveraging debt for expansion. High debt levels, if not managed prudently, can increase financial risk and threaten sustainability. These financial characteristics necessitate a careful balance in capital structure decisions, making the relationship between leverage and profitability an essential area for investigation.

1.3 Importance of capital structure in financial decision-making

Capital structure is a fundamental aspect of a firm's financial strategy, reflecting the proportion of debt and equity used to finance its operations and support long-term objectives. Determining an ideal capital structure is vital for maintaining financial health, lowering the overall cost of capital, and maximizing shareholder value.

It is the responsibility of financial managers to assess and implement a suitable mix of debt and equity that sustains profitability and ensures long-term viability. An effectively balanced capital structure not only enhances the firm’s ability to meet its financial obligations but also supports future investments. Moreover, it influences key performance indicators such as earnings per share (EPS), return on equity (ROE), and the overall market valuation of the company.

Debt financing brings the benefit of tax deductibility on interest payments, creating what is known as a tax shield. Nonetheless, a heavy reliance on debt increases financial exposure, as firms must meet fixed interest obligations regardless of performance. In contrast, equity financing mitigates default risk but can lead to shareholder dilution and reduced returns.

Research suggests that firms with an optimal capital structure can secure financing at lower costs, enabling strategic moves like expansion, mergers, or diversification. Therefore, capital structure decisions are central to long-term financial management and play a key role in driving sustainable business growth.

1.4 Relevance of studying profitability in the FMCG sector

Analysing profitability within the FMCG sector is particularly significant given the sector's substantial contribution to the Indian economy. Profitability acts as a vital measure of a company's financial performance and operational effectiveness. Due to the high-volume, low-margin nature of FMCG products, companies in this industry must consistently achieve healthy profit levels to ensure sustained growth, competitive positioning, and long-term viability.

The FMCG sector operated in a highly competitive environment where firms constantly aimed to optimize production, distribution, and marketing costs. Analysing profitability helped in understanding how well companies managed their resources, pricing strategies, and cost structures. It also provided insight into how external factors such as inflation, consumer behaviour, and policy changes affected financial performance.

Moreover, profitability analysis enabled investors, policymakers, and managers to assess the return on investment and the long-term viability of businesses. It had also guided financial planning, investment decisions, and performance benchmarking within the industry.

In addition, evaluating profitability in this sector helped in identifying growth opportunities, improving financial strategies, and ensuring better shareholder value. Given the fast-paced nature of the FMCG industry and its direct connection to consumer demand, studying profitability had been essential for maintaining sustainable business practices.

1.5 **Theoretical foundation**

The interplay between capital structure and profitability is grounded in several core financial theories that have evolved over time. Each theory provides a different lens through which the decisions of FMCG firms can be understood:

- modigliani and miller theorem (1958): This seminal theory asserts that, in an ideal capital market—characterized by the absence of taxes, transaction costs, and with perfect information—the value of a firm remains unaffected by its capital structure. Although largely theoretical, this proposition provides the foundational framework for subsequent studies on capital structure decisions.

- trade-off theory: The trade-off theory suggests that firms strive to attain an optimal capital structure by weighing the tax advantages of debt, such as the interest tax shield, against the costs associated with financial distress and potential bankruptcy. In the context of FMCG companies, which generally exhibit stable earnings, moderate use of debt can be beneficial. However, excessive leverage poses risks due to the sector's low-profit margins and the need to maintain operational and financial flexibility.

- pecking order theory (myers & majluf, 1984): This theory postulates that firms follow a specific hierarchy when making financing decisions: internal funds are preferred, followed by debt, and equity is considered a last resort. This order is influenced by information asymmetry between managers and external investors. FMCG firms, which often have reliable internal cash flows, typically adhere to this pattern by minimizing dependence on external financing.

- agency cost theory: proposed by jensen and meckling (1976): This perspective emphasizes the conflicts of interest that may arise between managers and shareholders, or between shareholders and creditors. It argues that capital structure choices are influenced by the need to mitigate agency costs. These conflicts can be managed through effective monitoring systems and the alignment of managerial incentives with shareholder interests.

These theories collectively highlight that capital structure decisions are not one-size-fits-all and depend heavily on firm-specific factors such as cash flow stability, growth prospects, and managerial preferences—making them particularly relevant in a sector like FMCG that operates with high volume but thin margins.

1.6 Industry challenges in capital structure management

FMCG firms encounter distinct challenges in managing their capital structures, shaped by the operational dynamics and competitive nature of the industry. These challenges influence how firms balance debt and equity in financing decisions:

- low profit margins and intense competition: The FMCG sector operates in a highly competitive environment where companies must offer products at affordable prices to retain market share. This pricing pressure limits profit margins, making excessive debt burdensome, as fixed interest obligations can further strain financial stability and erode profitability.

- short cash conversion cycles: FMCG firms typically experience rapid inventory turnover and quick revenue generation due to the fast-moving nature of their products. Unlike capital-intensive industries with longer production cycles, FMCG companies can often fund operations through internally generated cash flows, thereby reducing the need for long-term debt financing.

- working capital management needs: Maintaining optimal inventory levels, managing receivables, and ensuring smooth distribution networks require continuous access to working capital. These requirements necessitate robust financial planning. While short-term debt can help meet liquidity needs, over-reliance on it may increase financial risk, particularly in volatile market conditions.

Overall, the capital structure choices in the FMCG industry are influenced more by operational efficiency and working capital management than by traditional debt-equity optimization theories. Firms must maintain a delicate balance to support growth without compromising financial flexibility.

1.7 Impact of economic and market conditions

Capital structure decisions are influenced by economic factors such as inflation, interest rates, and taxation policies. In recent years:

- Rising inflation and input costs (e.g., raw materials, packaging, and transportation) have put pressure on FMCG firms to restructure their financing models.

- Fluctuating interest rates impact firms using debt financing—companies like Jubilant FoodWorks, which rely heavily on loans for expansion, face higher financial risk during periods of rising interest rates.

- Regulatory changes, including corporate governance norms and SEBI guidelines, have made it essential for FMCG companies to maintain an optimal debt-equity ratio to ensure financial transparency and stability.

1.8 Macroeconomic relevance & recent trends

The capital structure decisions of FMCG companies are not made in isolation; they are deeply affected by the macroeconomic environment, both globally and domestically. Several recent trends have brought this relationship into sharper focus:

- post-pandemic market adjustments: The COVID-19 pandemic significantly impacted global supply chains and altered consumer behaviour, compelling FMCG companies to respond swiftly. These firms faced the dual challenge of sustaining liquidity and fulfilling heightened demand for essential goods, all while managing escalating raw material costs. In response, many opted to limit their exposure to long-term debt, instead relying on short-term financing options and internal cash reserves to preserve operational agility during uncertain times.

- inflation and input cost pressures: Over the last few years, inflation in commodity prices (e.g., edible oil, packaging materials) has significantly impacted input costs for FMCG companies. This has forced firms to either absorb costs, adjust pricing cautiously, or improve efficiency—each of which affects profitability and capital planning decisions.

- rising interest rates: Central banks, including the Reserve Bank of India (RBI), have adopted tighter monetary policies to curb inflationary pressures. As a result, borrowing costs have risen, reducing the appeal of debt financing—particularly for firms operating with narrow profit margins. In this environment, capital structure decisions take on greater strategic importance, as companies must carefully balance the cost of capital against their goals for growth and profitability.

- digital transformation and e-commerce growth: With the acceleration of digital adoption, FMCG firms are increasingly investing in digital supply chains, direct-to-consumer channels, and data analytics. These investments are typically financed through internal funds or equity, further influencing capital structure dynamics.

- environmental, social, and governance (ESG) considerations: Stakeholder expectations around sustainability are affecting financing decisions. Companies with strong ESG credentials may find it easier and cheaper to access equity or green finance, influencing how they structure their capital.

These macroeconomic developments underline the need for a dynamic and responsive capital structure strategy. FMCG firms must constantly re-evaluate their financial leverage to adapt to changing external conditions while maintaining profitability and competitiveness.

1.9 Existing gaps in research

Numerous studies have examined the link between capital structure and profitability across various industries and countries. However, much of this research has concentrated on developed nations or capital-intensive sectors such as manufacturing, banking, and infrastructure. The distinctive nature of the FMCG sector—especially in emerging markets like India—has received comparatively less scholarly attention.

In the Indian scenario, empirical research specifically targeting FMCG firms remains limited. These companies typically operate on a low-margin, high-volume model and therefore require tailored financial strategies. Prior studies often aggregated data across multiple industries, overlooking the operational and financial nuances unique to the FMCG segment.

Moreover, many existing studies rely on outdated datasets or fail to reflect recent changes in the economic and policy environment. Developments such as the implementation of the Goods and Services Tax, rising rural consumption, and the growing impact of digital transformation have significantly influenced capital structure choices in recent years—yet their effects on FMCG firms remain underexplored.

Additionally, earlier literature tends to focus on linear models, without considering the role of sector-specific factors that might alter the capital structure–profitability dynamic. Consequently, a clear research gap exists in understanding how capital structure decisions have influenced the profitability of Indian FMCG firms over the past decade.

This gap underscores the need for a targeted study that utilizes contemporary data, accounts for industry-specific challenges, and delivers actionable insights to support financial decision-making within the Indian FMCG sector.

1.10 Problem statement

India’s fast-moving consumer goods (FMCG) industry has established itself as one of the most dynamic and competitive sectors, playing a significant role in the country’s economic progress. Given its high-volume and low-margin nature, businesses in this domain constantly grapple with the dual challenge of maintaining profitability and optimizing operational efficiency. Within this framework, capital structure decisions become particularly crucial, as they directly affect a company’s overall financial health. Striking the right mix between debt and equity, however, remains a complex undertaking, especially in a market that is continually evolving.

Although the link between capital structure and profitability has been widely researched, much of the existing work has concentrated on developed markets or capital-intensive sectors. There remains a clear research gap concerning the Indian FMCG sector, which operates under unique economic conditions, consumer behaviors, and regulatory norms. Additionally, many past studies have overlooked recent shifts such as the adoption of digital technologies, the rollout of the Goods and Services Tax (GST), and evolving consumer preferences in the aftermath of the COVID-19 pandemic.

This research seeks to address this gap by exploring how capital structure impacts the profitability of selected FMCG firms in India. Understanding this relationship is vital for financial professionals, investors, and regulators, as it can lead to more strategic financial decisions that foster long-term sustainability and increase shareholder returns. Through a sector-specific and updated analysis, the study aims to offer valuable insights that support effective financial planning in the context of India’s rapidly growing FMCG landscape.

1.11Objectives of the study

- examine the capital structure patterns of selected FMCG companies in India from 2015 to 2024: This objective aimed to study how different FMCG firms in India had structured their finances over the past decade. It focused on identifying the proportion of debt and equity used by these firms, and whether there had been any noticeable shifts in financing strategies during this period

- analyse the trend of profitability among Indian FMCG firms during the same period: This objective aims to track changes in the financial performance of selected FMCG firms from 2015 to 2024. It involves analysing key profitability metrics—such as Return on Assets (ROA), Return on Equity (ROE), and Net Profit Margin (NPM)—to observe how these indicators have evolved over the years.

- evaluate the relationship between capital structure components and profitability indicators: This objective is centred on investigating the relationship between various capital structure elements—including the total debt ratio, long-term debt ratio, and debt-to-equity ratio—and measures of profitability. The goal is to determine whether firms with higher debt proportions tend to show improved or diminished profitability.

- identify whether capital structure had a significant impact on profitability of FMCG companies in India: This objective seeks to analyse whether capital structure significantly influences a company's profitability. Going beyond descriptive analysis, it involves the application of statistical techniques to identify the extent and direction of this impact with empirical evidence.

- provide recommendations for FMCG firms on optimizing capital structure for better financial performance: Based on the findings, this objective aimed to offer practical suggestions to financial managers and business leaders in the FMCG sector. The recommendations were intended to guide firms in choosing an appropriate capital structure that could lead to improved profitability and financial sustainability.

1.12 Scope of the study

This study explored the connection between capital structure and profitability among selected Indian FMCG companies during the period from 2015 to 2024. The analysis focused on firms that were both listed and actively operating in the sector, drawing on secondary data obtained from audited financial statements, company annual reports, and trusted financial databases.

The study examined major components of capital structure, namely the debt-to-equity ratio, the total debt ratio, and the long-term debt ratio. Profitability was measured using indicators such as Return on Assets (ROA), Return on Equity (ROE), and Net Profit Margin (NPM). To explore the extent and nature of the relationship between capital structure and profitability, the research utilized a range of statistical techniques, including descriptive analysis, correlation assessment, Multivariate Analysis of Variance (MANOVA), and Multivariate Analysis of Covariance (MANCOVA).

The central aim of this research was to provide valuable insights for financial managers, investors, policymakers, and academic researchers by enhancing the understanding of capital structure decisions within the evolving landscape of the Indian FMCG sector.

2. LITERATURE REVIEW

2.1 Theoretical Framework

2.1.1 Modigliani and Miller theorem (1958 & 1963)

Modigliani and Miller (1958) introduced a pioneering concept in corporate finance, known as the capital structure irrelevance theory. According to their original model, in a perfectly efficient market—free from taxes, bankruptcy costs, and asymmetric information—the value of a firm is independent of its capital structure. Under these ideal conditions, whether a company chooses debt or equity financing has no effect on its market valuation or its overall cost of capital. However, in a later revision of their theory in 1963, they incorporated the impact of corporate taxes. By acknowledging that interest expenses on debt are tax-deductible, they revealed the presence of a tax shield, which can potentially increase a firm's value through debt financing. This adjustment represented a major evolution in capital structure theory, as it introduced the idea that financing choices do influence firm valuation when real-world imperfections are considered. Their foundational work paved the way for future research that further examined the effects of market imperfections on financial decision-making.

2.1.2 Trade-off theory

The Trade-off Theory, introduced by Kraus and Litzenberger in 1973, posits that firms determine their capital structure by balancing the benefits and costs associated with debt financing. A primary advantage of debt lies in the tax savings generated from interest payments, which can enhance a firm's overall value. However, this gain is countered by potential downsides, including the risk of financial distress, bankruptcy, and agency conflicts, particularly at higher debt levels. According to the theory, firms aim to achieve an optimal capital structure where the marginal benefit from the tax shield on debt is precisely balanced by the marginal cost of financial distress. This framework is particularly relevant for firms with stable earnings and predictable cash flows, as they are more capable of managing debt obligations. In the case of Indian FMCG companies—known for consistent revenues and modest capital investment requirements—the Trade-off Theory helps explain their typically prudent approach to leveraging debt as part of their financial strategy.

2.1.3 Pecking order theory

The Pecking Order Theory, formulated by Myers and Majluf in 1984, offers a contrasting perspective on how firms approach financing decisions. This theory asserts that companies prefer a financing hierarchy, starting with internal funds, then moving to debt, and turning to equity issuance only as a last resort. The rationale lies in minimizing the effects of information asymmetry between management and external investors. Since managers typically possess more information about the firm's true value than outsiders, issuing new equity may be interpreted by the market as a signal that the firm is overvalued, potentially undermining investor confidence. As a result, firms tend to rely on retained earnings first to meet their financing needs. Unlike models advocating a target debt-to-equity ratio, the Pecking Order Theory suggests that funding decisions are primarily driven by the availability of internal resources. This framework is particularly applicable to FMCG firms, which usually benefit from steady cash flows and lower capital intensity, allowing them to support growth and operations primarily through internally generated capital.

2.1.4 Agency cost theory

Jensen and Meckling (1976) proposed the Agency Cost Theory to illustrate how a firm's capital structure can serve as a tool to align the interests of managers with those of shareholders. The theory highlights conflicts that emerge between management (agents) and owners (principals), often due to differing priorities and goals. By utilizing debt financing, firms introduce fixed financial obligations that limit the availability of discretionary funds, thereby restricting managers from engaging in inefficient spending or pursuing unprofitable ventures. Nevertheless, while debt can mitigate internal agency issues, it can also give rise to new conflicts between shareholders and creditors, particularly when a firm’s financial health is compromised. High levels of debt may encourage risk-taking or lead to underinvestment, both of which can undermine firm value. This framework is particularly applicable to FMCG companies, where maintaining strict financial control and operational efficiency is essential for success in a highly competitive and low-margin market.

2.2 Empirical Studies and Their Findings

2.2.1 Eshwari and Baby (2023): capital structure impact on Indian FMCG sector

Eshwari and Baby (2023) carried out a data-driven study on publicly listed FMCG companies in India, revealing a negative relationship between capital structure and profitability indicators such as Return on Assets (ROA), Return on Equity (ROE), and Earnings Per Share (EPS). Their findings indicated that elevated levels of long-term debt tend to hinder profitability, largely due to the sector's low reliance on fixed assets and its fast-paced inventory cycles. Given that FMCG companies operate with slim profit margins and require flexible financial strategies, they are particularly vulnerable to the cost pressures associated with long-term borrowing. The study concluded that these firms benefit more from minimizing their debt exposure—especially long-term obligations—and instead utilizing short-term internal financing for their operational requirements. These insights lend support to the Pecking Order Theory, emphasizing the relevance of profitability metrics in evaluating financial health and strategic funding choices.

2.2.2 Chisti, Ali and Sangmi (2013): evidence from multiple Indian industries

Chisti, Ali, and Sangmi (2013) investigated the relationship between capital structure and profitability by examining 30 companies listed on the Bombay Stock Exchange, representing multiple sectors including the FMCG industry. Spanning a period of five years, the study revealed a significant inverse relationship between profitability indicators—such as Return on Assets (ROA) and Net Profit Margin (NPM)—and capital structure metrics like the Debt-to-Equity Ratio and the Total Debt to Assets Ratio. The results indicated that Indian firms tend to perform better financially when they minimize reliance on borrowed capital. These outcomes support the Pecking Order Theory, highlighting a common tendency among Indian enterprises to favor internal sources of funding. The research also underscored the need for careful financial management and cautioned against the risks associated with high levels of debt, particularly within developing market environments.

2.2.3 Gill, Biger and Mathur (2011): insights from U.S. firms

Gill, Biger, and Mathur (2011) investigated how capital structure influences profitability in American service and manufacturing companies, with a particular focus on distinguishing between short-term and long-term debt. Their study found that short-term debt tends to have a positive effect on profitability, whereas long-term debt generally has a negative impact. Despite differences in economic and regulatory contexts, these findings offer valuable insights for Indian FMCG firms, which often depend on short-term borrowing for managing working capital. The research underscores the need to treat different types of debt separately when assessing their influence on firm performance. It suggests that when managed properly, short-term debt can improve liquidity and profitability without imposing the risks associated with long-term financial obligations.

2.2.4 Singh and Bagga (2019): panel data approach in Indian context

Singh and Bagga (2019) utilized a panel data regression approach to explore the relationship between capital structure and profitability across various Indian industries, including FMCG, from 2010 to 2017. Their analysis showed that short-term debt positively influenced profitability by enhancing liquidity and meeting working capital needs. Conversely, long-term debt negatively affected profitability, mainly due to ongoing interest expenses that diminished net income. The study also highlighted firm size as an important moderating factor, indicating that larger companies with more extensive operations and resources were better equipped to manage the costs associated with debt. These findings emphasize the importance of incorporating firm-specific variables in financial research and demonstrate the effectiveness of panel data methods for capturing trends over time.

Table 2.1 Independent variable

Variable	Reason	Support
Debt-to-Equity Ratio	Captures leverage and financial risk	Eshwari & Baby (2023); Chisti et al. (2013)
Total Debt to Assets	Measures overall debt burden relative to assets	Chisti et al. (2013)
Long-term Debt Ratio	Evaluates effect of long-term liabilities on performance	Eshwari & Baby (2023); Gill et al. (2011); Singh & Bagga (2019)
Short-term Debt Ratio	Assesses short-term borrowing efficiency	Gill et al. (2011); Singh & Bagga (2019)

Source: own creation

Table 2.2 Dependent variable

Variable	Reason	Support
Return on Assets	Measures how efficiently assets generate profits	Eshwari & Baby (2023); Chisti et al. (2013); Gill et al. (2011)
Return on Equity	Indicates return generated for shareholders	Eshwari & Baby (2023); Gill et al. (2011)
Earnings Per Share	Reflects firm profitability on a per-share basis	Eshwari & Baby (2023)
Net Profit Margin	Shows percentage of revenue converted into net income	Chisti et al. (2013)

Source: own creation

Table2.3 Control variable

Variable	Reason	Support
Firm Size	Larger firms may benefit from economies of scale and better debt management	Singh & Bagga (2019)
Sales Growth	Fast-growing firms may generate higher profits regardless of capital structure	Singh & Bagga (2019)
Asset Turnover Ratio	Indicates operational efficiency and revenue generation capability	Singh & Bagga (2019)

Source: own creation

3. RESEARCH METHODOLOGY

3.1 Research design

This research employs a quantitative approach within a deductive framework to explore the empirical relationship between capital structure and profitability in India's Fast-Moving Consumer Goods (FMCG) sector. The study is anchored in established financial theories, including Modigliani and Miller's capital structure irrelevance theory, the Trade-off Theory, the Pecking Order Theory, and the Agency Cost Theory. The central aim is to assess the influence of capital structure choices—particularly the balance between short-term and long-term debt—on critical profitability indicators such as Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM), and Earnings Per Share (EPS).

Utilizing a panel data methodology, the study examines multiple firms over several years to incorporate both cross-sectional and temporal variations. The research is explanatory in nature, aiming to uncover causal relationships through the use of descriptive statistics, correlation analysis, multiple linear regression, and sophisticated multivariate techniques like MANOVA and MANCOVA. These methods allow for controlling firm-specific factors such as firm size and asset turnover, which capture differences in operational scale and efficiency. This approach ensures a comprehensive and rigorous analysis of the influence of capital structure on profitability amid the dynamic FMCG sector.

3.2 Data collection

This study is based on secondary data collected from publicly available financial statements and reliable databases, spanning a ten-year period from 2015 to 2024. The sample includes leading Indian FMCG firms such as Britannia, Hindustan Unilever Limited (HUL), ITC, Nestlé India, Patanjali, Radico Khaitan, Tata Consumer Products, and Varun Beverages Limited. These companies were selected due to their consistent listing on the Bombay Stock Exchange (BSE) or National Stock Exchange (NSE), availability of complete financial data, and representation across various FMCG categories like food, beverages, and personal care.

The financial data were sourced from credible platforms, including company annual reports, Screener, NSE databases, and other established financial resources. Variables related to capital structure—such as the Debt-to-Equity Ratio (DER), Long-Term Debt Ratio (LTD), and Short-Term Debt Ratio (STD)—were collected, along with profitability indicators like Return on Assets (ROA), Return on Equity (ROE),

Earnings Per Share (EPS), and Net Profit Margin (NPM). The analysis also incorporated control variables such as total assets and asset turnover ratio to enhance the robustness of the regression model.

The use of decade-long panel data enables a comprehensive analysis of financial patterns, company-level capital structure strategies, and the impact of broader economic conditions. Prior to conducting the analysis, data preparation steps such as identifying outliers and addressing missing values were undertaken to ensure accuracy and consistency.

3.3 Analytical Tools and Techniques

1. descriptive statistics: The study began with descriptive analysis to summarize the dataset by calculating measures such as mean, median, standard deviation, minimum, and maximum values. This provided a clear picture of the data's central tendencies and dispersion.

2. correlation analysis: Correlation matrices were created to explore the strength and direction of the relationships between capital structure variables and profitability indicators. This step served as an initial assessment before employing more complex statistical techniques.

3. MANOVA (multivariate analysis of variance): MANOVA was used to examine whether capital structure variables had a statistically significant impact on the set of profitability variables taken together. It assessed the combined influence of debt ratios on multiple profitability outcomes simultaneously.

4. MANCOVA (multivariate analysis of covariance): Building on MANOVA, MANCOVA incorporated control variables such as firm size, sales growth, and asset turnover to isolate the effect of capital structure on profitability. This adjustment helped account for firm-specific factors, providing a more accurate analysis of the relationship.

3.4 Selection criteria for companies

The selection of companies for this study is based on a structured and data-driven methodology to ensure consistency and reliability in the analysis. The initial pool comprises the 15 listed firms under the Nifty FMCG Index, representing a comprehensive cross-section of the Indian FMCG sector.

To refine this sample, specific control variables were considered, namely: firm size (measured through market capitalization), sales growth (calculated as the average annual growth rate over the past five years), and asset turnover ratio (also averaged over the past five years). These variables were chosen due to their relevance in assessing a company's financial performance and operational efficiency, which are essential for analysing the impact of capital structure on profitability.

Following the selection of control variables, all data points were normalized using the Min-Max normalization technique to bring the values to a common scale, thereby eliminating potential bias arising from differing units of measurement. After normalization, a weighted average score was computed for each company based on the normalized control variables. The final composite score reflects the overall financial and operational standing of each firm.

Companies that achieved a final score equal to or greater than one was included in the final sample for the research. This threshold ensures the inclusion of firms that consistently demonstrate a strong position across the selected control variables, providing a robust dataset for further econometric analysis.

Table 3.1 Companies Data

Company Name	Number of shares (Cr)	Current Price	Market Capx (Cr)	Sales Growth	Asset Turnover Ratio
Britannia Industries Ltd	24.08	5,021.50	1,20,900.78	8.8%	1.72 Times
Colgate-Palmolive (India) Ltd	27.18	2,422.55	65,854.35	5.0%	1.75 Times
Dabur India Ltd	177.16	462.00	81,845.93	7.9%	0.87 Times
Emami Ltd	43.62	592.90	25,862.12	5.9%	1.08 Times
Godrej Consumer Products Ltd	102.31	1,157.85	1,18,464.27	6.6%	0.75 Times
Hindustan Unilever Ltd	234.89	2,244.45	5,27,201.34	9.7%	1.00 Times
Itc Ltd	1,251.72	409.55	5,12,640.99	8.4%	0.74 Times
Marico Ltd	129.60	677.25	87,770.77	5.9%	1.48 Times
Nestle India Ltd	96.35	2,264.95	2,18,231.00	14.7%	1.96 Times
Patanjali Foods Ltd	36.20	1,851.80	67,035.92	21.3%	2.07 Times
Radico Khaitan Ltd	13.38	2,340.00	31,299.05	15.2%	0.96 Times
Tata Consumer Products Ltd	98.90	1,087.80	1,07,586.94	16.3%	0.57 Times
United Breweries Ltd	26.45	1,999.45	52,877.15	8.0%	1.04 Times
United Spirits Ltd	72.69	1,429.25	1,03,894.86	4.5%	1.04 Times
Varun Beverages Ltd	338.22	535.00	1,80,946.43	24.6%	0.95 Times

Source: own creation

Table 3.2 Selection Table

Colgate-Palmolive (India) Ltd	Firm Size	Sales Growth	Asset Turnover Ratio	Score	Considered for test
Britannia Industries Ltd	**0.19**	**0.21**	**0.77**	**1.573**	**YES**
Colgate-Palmolive (India) Ltd	0.08	0.02	0.79	0.996	NO
Dabur India Ltd	0.11	0.17	0.20	0.765	NO
Emami Ltd	0.00	0.07	0.34	0.480	NO
Godrej Consumer Products Ltd	0.18	0.11	0.12	0.699	NO
Hindustan Unilever Ltd	**1.00**	**0.26**	**0.29**	**2.811**	**YES**
Itc Ltd	**0.97**	**0.19**	**0.11**	**2.442**	**YES**
Marico Ltd	0.12	0.07	0.60	0.991	NO
Nestle India Ltd	**0.38**	**0.51**	**0.93**	**2.714**	**YES**
Patanjali Foods Ltd	**0.08**	**0.84**	**1.00**	**2.838**	**YES**
Radico Khaitan Ltd	**0.01**	**0.53**	**0.26**	**1.352**	**YES**
Tata Consumer Products Ltd	**0.16**	**0.59**	**0.00**	**1.503**	**YES**
United Breweries Ltd	0.05	0.18	0.32	0.776	NO
United Spirits Ltd	0.16	0.00	0.32	0.627	NO
Varun Beverages Ltd	**0.31**	**1.00**	**0.25**	**2.872**	**YES**

Source: own creation

Table 3.3 Shortlisted Companies

Serial Number	Selected Companies
1	Britannia Industries Ltd
2	Hindustan Unilever Ltd
3	ITC Ltd
4	Nestle India Ltd
5	Patanjali Foods Ltd
6	Radico Khaitan Ltd
7	Tata Consumer Products Ltd
8	Varun Beverages Ltd

Source: own creation

4. DATA ANALYSIS AND INTERPRETATION

4.1 Descriptive statistics

4.1.1 Britannia (annexure 1)

- Moderate leverage (DER = 1.03) is accompanied by high ROA (0.218) and ROE (0.448), indicating an optimal capital structure.

- A low long-term debt ratio (LTD = 0.15) and relatively higher short-term debt ratio (STD = 0.32) suggest reliance on short-term borrowings, typical in the FMCG sector for working capital.

- EPS (0.113) is stable, indicating consistent earnings generation.

- Conclusion: Britannia maintains a well-balanced capital structure that supports sustainable profitability.

4.1.2 HUL (Hindustan Unilever Limited) (annexure 2)

- Higher leverage (DER = 1.12) with strong profitability metrics (ROA = 0.233, ROE = 0.543).

- Very low LTD (0.0088) and high STD (0.47) reflect a preference for short-term debt.

- High ROE implies robust shareholder returns, supported by brand strength and operational efficiency.

- Conclusion: HUL's leverage appears efficiently managed, and profitability is not adversely impacted by debt levels.

4.1.3 ITC (annexure 3)

- Lowest DER (0.24) and lowest LTD (0.0026) in the sample, indicating minimal reliance on debt.

- Highest NPM (0.26), along with strong ROA (0.194) and ROE (0.242), shows impressive profitability.

- Conclusion: ITC's conservative capital structure effectively supports high profitability, driven by strong internal operations.

4.1.4 Nestlé (annexure 4)

- High DER (2.09) coexists with excellent profitability (ROA = 0.237, ROE = 0.78), indicating effective use of financial leverage.

- A balanced debt mix with moderate LTD (0.018) and high STD (0.63).

- Strong EPS (0.136) and NPM (0.136) reflect financial resilience.

- Conclusion: Nestlé demonstrates successful use of leverage to enhance returns without compromising financial stability.

4.1.5 Patanjali (annexure 5)

- Extremely high DER (2.14) and high LTD (0.42) suggest aggressive debt financing.

- Very low ROA (0.037) and volatile ROE (mean = 0.231, SD = 0.93) indicate financial instability.

- Conclusion: Patanjali's capital structure appears risky, with high leverage negatively affecting profitability and consistency.

4.1.6 Radico (annexure 6)

- Moderate DER (0.86) but relatively low ROA (0.0647) and ROE (0.11).
- Low EPS (0.072) compared to industry peers suggests limited earnings growth.
- Conclusion: Despite moderate debt, Radico underperforms in profitability, possibly due to operational inefficiencies.

4.1.7 TATA FMCG (annexure 7)

- Low DER (0.50) and conservative LTD (0.099) reflect low-risk financing.
- ROA (0.035) and ROE (0.053) are among the lowest, indicating underperformance.
- Conclusion: TATA FMCG may benefit from revising its capital structure to enhance returns, potentially by incorporating moderate leverage.

4.1.8 Varun Beverages Limited (VBL) (annexure 8)

- Highest DER (3.17) with high return volatility (EPS = 0.072, SD = 0.040).
- ROA (0.066) and ROE (0.19) are moderate but inconsistent.
- Conclusion: VBL's excessive leverage creates financial risk without proportionate profitability, suggesting inefficiencies in debt utilization.

4.2 Descriptive Statistical Analysis

4.2.1 Capital Structure Characteristics

The Debt-to-Equity Ratio (DER) varies widely across firms, reflecting diverse capital structuring strategies in the Indian FMCG sector:

- Highly leveraged firms such as VBL (DER = 3.17) and Patanjali (DER = 2.14) rely heavily on debt financing, increasing financial risk, especially in economic downturns.

- Low-leverage firms like ITC (DER = 0.24) and TATA (DER = 0.50) adopt more conservative financing approaches, possibly emphasizing equity or internal funding.

- High standard deviations in DER for Patanjali (SD = 4.42) and VBL (SD = 5.50) suggest unstable debt levels and possible restructuring or expansion phases.

These observations underscore that capital structure decisions are not standardized across firms, and their effectiveness likely depends on firm-specific financial management and operational strategies.

4.2.2 Profitability Indicators

Profitability, assessed through ROA, ROE, NPM, and EPS, also reveals key differences:

- **Top performers**:

    - Nestlé shows highest ROE (0.78) and robust ROA (0.24), driven by efficient operations and brand equity.

    - ITC achieves highest NPM (0.26), reflecting superior cost control and product margins.

- **Underperformers**:

    - Patanjali posts the lowest ROA (0.038) and NPM (0.015), highlighting potential issues in asset efficiency and pricing.

    - TATA FMCG also shows consistently low profitability, suggesting limited operational leverage despite its conservative financing.

These patterns indicate that profitability is influenced by more than just capital structure, with efficiency, market positioning, and scale playing key roles.

4.2.3 Implications for the capital structure–profitability relationship

Three major insights emerge:

1. leverage alone does not determine profitability: For example, ITC achieves strong profitability with minimal debt, while highly leveraged firms like Patanjali underperform. This suggests that optimal capital structure is firm-specific.

2. operational efficiency and scale matter more: Firms like Nestlé and HUL balance debt with operational prowess, boosting returns irrespective of leverage levels.

3. financial volatility is linked to unstable capital structures: Firms with fluctuating DERs, such as Patanjali and VBL, show inconsistent profitability, highlighting risks of poor debt management.

4.2.4 Conclusion from Descriptive Analysis

The descriptive data underscores a non-linear relationship between capital structure and profitability in the Indian FMCG sector. While some firms leverage debt successfully, others achieve better results through equity reliance and operational excellence. These insights validate the study's aim to go beyond simple correlations and evaluate how firm-specific factors mediate the impact of capital structure on profitability.

4.3 Correlation Analysis

The main objective of the correlation analysis was to investigate the strength and direction of the linear relationships between capital structure components and profitability metrics in selected Indian FMCG companies. The study focused on examining how variables like Debt-to-Equity Ratio (DER), Total Debt to Assets (TDA), Long-Term Debt (LTD), and Short-Term Debt (STD) correlated with profitability indicators such as Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM), and Earnings Per Share (EPS) during the period from 2015 to 2024.

This analysis served as a preliminary diagnostic tool to identify patterns and relationships in the data before conducting deeper multivariate analysis such as regression, MANOVA, and MANCOVA.

Table 4.1 Corelation Matrix

Variables	DER	TDA	LTD	STD	ROA	ROE	NPM	EPS
DER	**1.000**	0.310	0.165	0.256	0.000	-0.085	-0.104	-0.104
TDA	0.310	**1.000**	0.717	0.620	-0.279	0.250	-0.536	-0.536
LTD	0.165	0.717	**1.000**	-0.103	-0.449	-0.079	-0.521	-0.521
STD	0.256	0.620	-0.103	**1.000**	0.108	0.446	-0.177	-0.177
ROA	0.000	-0.279	-0.449	0.108	**1.000**	0.578	0.868	0.868
ROE	-0.085	0.250	-0.079	0.446	0.578	**1.000**	0.355	0.355
NPM	-0.104	-0.536	-0.521	-0.177	0.868	0.355	**1.000**	1.000
EPS	-0.104	-0.536	-0.521	-0.177	0.868	0.355	1.000	**1.000**

Source: own creation

4.3.1 Findings from correlation analysis

- Long-Term Debt (LTD) showed a strong negative correlation with all profitability indicators, especially ROA (-0.449) and NPM/EPS (-0.521). This suggested that companies with higher long-term debt tended to experience lower profitability, likely due to heavier interest burdens and long-term financial commitments.

- Total Debt to Assets (TDA) was also negatively correlated with NPM and EPS (-0.536), indicating that higher leverage overall reduced firm profitability in the FMCG sector.

- Short-Term Debt (STD) displayed a positive correlation with ROA (0.108) and a moderate correlation with ROE (0.446). This implied that short-term borrowing, possibly used for working capital or operational efficiency, had a more favourable impact on financial performance.

- Debt-to-Equity Ratio (DER) exhibited negligible correlation with ROA (0.000) and weak negative correlation with ROE (-0.085) and NPM (-0.104). This result suggested that DER alone may not effectively capture the impact of debt on profitability, or that its effect was conditional on other factors such as firm size or industry type.

- Among profitability indicators, NPM and EPS were highly positively correlated (0.868), suggesting that improved net margins translated directly into better earnings per share and vice versa.

4.3.2 Theoretical interpretation

The correlation findings are consistent with the Trade-Off Theory, which argues that while debt offers tax benefits, too much debt raises the likelihood of financial distress. The observed negative association between Long-Term Debt (LTD) and Total Debt to Assets (TDA) with major profitability indicators supports this theory, especially in the FMCG sector, where companies generally have low capital intensity and rely heavily on short-term liquidity.

`The positive association of STD with ROE further reinforced findings from prior literature, such as Singh and Bagga (2019), who highlighted the effective use of short-term funds in improving working capital management and liquidity.

4.3.4 Conclusion and Implications

- capital structure decisions particularly the composition of long-term vs. short-term debt, had measurable effects on profitability in the FMCG sector.

- long-term debt appeared detrimental to profitability, while short-term debt had a more positive or neutral effect, highlighting the importance of managing debt maturity.

- these findings provided a sound empirical base for continuing with further multivariate analysis (e.g., MANOVA, MANCOVA), with an emphasis on LTD and TDA as critical capital structure variables.

- the correlation patterns were also consistent with prior empirical studies and theoretical models, offering greater validity to the overall research approach.

4.4 MANOVA

The purpose of performing the Multivariate Analysis of Variance (MANOVA) was to examine whether the profitability metrics of FMCG firms—specifically Return on Assets (ROA), Return on Equity (ROE), and Net Profit Margin (NPM)—differed significantly across varying levels of Debt-to-Equity Ratio (DER). To facilitate this analysis, DER was classified into three categories: low, medium, and high, allowing for the assessment of how differing degrees of financial leverage correspond to changes in profitability patterns.

Table 4.2 MANOVA Results

Intercept	Value	Num DF	Den DF	F Value	Pr > F
Wilks' lambda	0.420	3.000	75.000	34.475	0.000
Pillai's trace	0.580	3.000	75.000	34.475	0.000
Hotelling-Lawley trace	1.379	3.000	75.000	34.475	0.000
Roy's greatest root	1.379	3.000	75.000	34.475	0.000

DER_Category	Value	Num DF	Den DF	F Value	Pr > F
Wilks' lambda	0.528	6.000	150.000	9.420	0.000
Pillai's trace	0.497	6.000	152.000	8.372	0.000
Hotelling-Lawley trace	0.849	6.000	98.242	10.550	0.000
Roy's greatest root	0.791	3.000	76.000	20.042	0.000

Source: own creation

4.4.1 Interpretation of MANOVA results

All test statistics produced p-values less than 0.001, indicating that the combined profitability metrics significantly differed across DER categories.

4.4.2 Theoretical interpretation

The results strongly supported the Pecking Order Theory (Myers and Majluf, 1984), which posits that firms avoid external financing due to information asymmetry. Firms with lower DER were likely relying more on internal funds, resulting in stronger profitability outcomes. Additionally, the negative impact of higher leverage on profitability was also consistent with the Trade-Off Theory, which recognizes the cost of financial distress associated with higher debt levels.

4.4.3 Conclusion and implications

The MANOVA results demonstrated a statistically significant multivariate effect of Debt-to-Equity Ratio (DER) categories on profitability. FMCG firms with varying DER levels showed notably different profitability profiles, underscoring the significant role of capital structure decisions in shaping overall financial performance within the sector. This outcome supports the hypothesis that capital structure impacts firm performance across multiple profitability dimensions simultaneously. Additionally, the findings resonate with the Pecking Order Theory, which posits that firms relying less on external financing tend to achieve stronger financial results due to lower financial risk and positive signalling effects.

4.4.4 Explanation for exclusion of other variables from MANOVA

The MANOVA model was purposefully limited to DER categories as the independent variable and ROA, ROE, and NPM as the dependent variables. The exclusion of other variables was justified on both methodological and theoretical grounds:

- total debt to assets (TDA): TDA was highly correlated with DER, and its inclusion could have introduced multicollinearity. Since DER more directly reflects the balance between debt and equity, it was prioritized for clearer interpretation.

- long-term debt (LTD): LTD represented a component of total debt and overlapped significantly with DER. Additionally, LTD was not categorized for group-wise comparison, making it unsuitable for the MANOVA model structure.

- short-term debt (STD): STD was more operational in nature and reflected liquidity management rather than long-term capital structure strategy. Including it might have diverted the focus of the analysis away from the core strategic impact of leverage.

- earnings per share (EPS): EPS was strongly correlated with NPM and ROA, leading to redundancy in the analysis. Moreover, EPS is often influenced by external factors such as equity structure and stock market behavior, making it less aligned with the internal operational profitability focus of this model.

4.5 MANCOVA

The Multivariate Analysis of Covariance (MANCOVA) was employed to investigate the effect of Debt-to-Equity Ratio (DER) on firm profitability indicators—Return on Assets (ROA), Return on Equity (ROE), and Net Profit Margin (NPM)—while controlling for firm-specific factors such as firm size, sales growth, and asset turnover. This approach aimed to isolate the distinct influence of DER on profitability by accounting for other key financial variables that may also affect firm performance.

Table 4.3 MANCOVA Results

Intercept	Value	Num DF	Den DF	F Value	Pr > F
Wilks' lambda	0.880	3.000	73.000	3.314	0.025
Pillai's trace	0.120	3.000	73.000	3.314	0.025
Hotelling-Lawley trace	0.136	3.000	73.000	3.314	0.025
Roy's greatest root	0.136	3.000	73.000	3.314	0.024

DER	Value	Num DF	Den DF	F Value	Pr > F
Wilks' lambda	0.924	3.000	73.000	2.000	0.121
Pillai's trace	0.076	3.000	73.000	2.000	0.121
Hotelling-Lawley trace	0.082	3.000	73.000	2.000	0.121
Roy's greatest root	0.082	3.000	73.000	2.000	0.121

Q("Firm Size")	Value	Num DF	Den DF	F Value	Pr > F
Wilks' lambda	0.773	3.000	73.000	7.162	0.000
Pillai's trace	0.227	3.000	73.000	7.162	0.000
Hotelling-Lawley trace	0.294	3.000	73.000	7.162	0.000
Roy's greatest root	0.294	3.000	73.000	7.162	0.000

Q("Sales Growth")	Value	Num DF	Den DF	F Value	Pr > F
Wilks' lambda	0.925	3.000	73.000	1.985	0.124
Pillai's trace	0.075	3.000	73.000	1.985	0.124
Hotelling-Lawley trace	0.082	3.000	73.000	1.985	0.124
Roy's greatest root	0.082	3.000	73.000	1.985	0.124

Asset_Turnover	Value	Num DF	Den DF	F Value	Pr > F
Wilks' lambda	0.722	3.000	73.000	9.382	0.000
Pillai's trace	0.278	3.000	73.000	9.382	0.000
Hotelling-Lawley trace	0.386	3.000	73.000	9.382	0.000
Roy's greatest root	0.386	3.000	73.000	9.382	0.000

Source: own creation

4.5.1 Interpretation of MANCOVA results

- debt-to-equity ratio (DER): DER did not demonstrate a statistically significant multivariate effect on profitability ($p = 0.121$). This suggests that, when firm size, sales growth, and asset turnover are accounted for, capital structure alone does not explain variations in profitability among FMCG firms.

- firm size: Firm size showed a strong and significant impact on profitability metrics ($p < 0.001$), confirming that larger firms tend to be more profitable. This may be attributed to economies of scale, brand strength, and operational leverage typically associated with larger FMCG companies.

- sales growth: Surprisingly, sales growth was not significantly associated with profitability ($p = 0.124$). This implies that revenue expansion does not necessarily translate to higher profits, possibly due to increased costs, inefficiencies, or market competition.

- asset turnover: Asset turnover demonstrated a highly significant effect on profitability ($p < 0.001$), highlighting that operational efficiency plays a critical role in determining financial performance. Firms with better utilization of assets are more likely to generate superior returns.

4.5.2 Theoretical justification

The findings support the Resource-Based View (RBV) theory, which emphasizes that firm-specific capabilities, such as size and resource utilization efficiency, are more crucial for competitive advantage and profitability than external capital structure arrangements. Additionally, the results align with the Efficient Market Hypothesis (EMH), suggesting that firms that deploy their assets more effectively are better positioned to generate returns, regardless of how they are financed.

4.5.3 Conclusion and Implications

The MANCOVA analysis revealed that capital structure, as measured by DER, is not a significant determinant of profitability when other internal financial variables are controlled. Instead, firm size and asset turnover emerged as significant predictors, emphasizing the importance of scale and operational efficiency in the FMCG sector. The insignificance of sales growth suggests that merely increasing revenue is insufficient for enhancing profitability without efficiency and scale.

5. FINDINGS

5.1 Summary of key findings

- no single capital structure strategy fits all: Companies follow very different financing strategies. For example, Nestlé and HUL maintain high leverage and still achieve excellent profitability. On the other hand, ITC and TATA FMCG prefer low debt, and ITC in particular performs well without relying on borrowings.

- high leverage doesn't always lead to high profits: Nestlé uses debt effectively and shows strong profits. In contrast, Patanjali and VBL, which have very high debt levels, suffer from low or inconsistent profitability. This suggests that high debt is only beneficial if the company can manage it efficiently.

- low debt doesn't guarantee better performance: ITC performs very well with minimal debt, showing that a conservative capital structure can work. However, TATA FMCG also has low debt but low profitability, meaning other factors like efficiency and market presence also matter.

- operational efficiency plays a major role: Companies like Nestlé, HUL, and ITC benefit from brand power, cost control, and market leadership, which help them stay profitable regardless of their debt levels.

- volatility in debt structure affects profitability: Firms like Patanjali and VBL have unstable capital structures (high standard deviation in DER), and this reflects in their fluctuating earnings and profitability. This shows that consistency in managing debt is important for financial stability.

Table 5.1 Company comparisons – capital Structure vs. profitability

Company	Debt Strategy	Profitability	Result
Nestlé	High DER (2.09)	High ROA & ROE	Uses debt efficiently
HUL	Moderate DER (1.12)	High profitability	Strong balance
ITC	Low DER (0.24)	High NPM	Conservative but successful
Britannia	Balanced DER (1.03)	Good ROA & ROE	Well-optimized
Patanjali	Very high DER (2.14)	Low & volatile profits	Risky capital structure
VBL	Highest DER (3.17)	Moderate, unstable profits	Over-leveraged
TATA FMCG	Low DER (0.50)	Low profitability	Conservative, but underperforming
Radico	Moderate DER (0.86)	Low ROA & ROE	Weak earnings despite moderate debt

Source: own creation

5.2 Conclusion from findings

- capital structure matters, but its impact on profitability is not universal across the FMCG sector.

- debt can enhance profitability, but only when managed well and supported by strong business fundamentals.

- operational performance, brand value, and market strategies are often more critical in determining profitability than capital structure alone.

6. CONCLUSION AND SUGGESTIONS

6.1 Conclusion

This research examined how capital structure relates to profitability within the Indian FMCG industry, utilizing panel data from 2015 to 2024 across selected companies. The findings reveal that no single capital structure approach suits every firm. For example, companies such as Nestlé and Hindustan Unilever Limited (HUL) effectively operate with high leverage while maintaining strong profits, whereas others like Patanjali and Varun Beverages experience earnings instability due to their heavy dependence on debt. In contrast, ITC's more cautious, equity-focused financing model demonstrates that lower leverage can also support solid profitability.

These results suggest that the impact of capital structure on profitability varies depending on firm-specific circumstances, including factors like operational efficiency, brand value, and managerial capabilities. While there is partial evidence supporting the influence of capital structure on financial outcomes, it is clear that leverage alone does not fully determine profitability. This underscores the importance of tailored financial strategies that align capital decisions with a company's ability to manage risk and sustain long-term performance.

6.2 Suggestions

Based on the findings, firms in the Indian FMCG sector should consider adopting a more strategic and tailored approach to capital structuring. Companies with stable cash flows and strong market positioning, like Nestlé and HUL, can benefit from moderate to high leverage as long as debt is used efficiently to support growth. However, firms like Patanjali and VBL should reassess their financing mix, as high debt levels coupled with inconsistent profitability expose them to financial instability. A more balanced or conservative capital structure may be beneficial for such firms, particularly during uncertain market conditions.

Additionally, firms with low leverage but weak profitability, such as TATA FMCG and Radico, should focus on improving operational efficiency and exploring opportunities to deploy capital more effectively. In some cases, modestly increasing leverage might help enhance returns if supported by prudent investment and growth strategies. Policymakers and financial advisors should also encourage better capital planning and risk management practices across the sector. Tailored financial advice and sector-specific benchmarks could help FMCG companies strike the right balance between debt and equity to support sustainable growth.

7. LIMITATIONS OF THE STUDY

Although this research offers important understanding of how capital structure affects profitability in the Indian FMCG sector, it does have certain limitations:

- limited sample size: The analysis is confined to a sample of eight leading FMCG firms. While these companies represent a substantial share of the industry, the findings may not be fully generalizable to smaller or lesser-known entities within the sector.

- reliance on secondary data: This study relies solely on secondary sources, including published financial reports and industry databases. Differences in accounting standards, possible errors, or later adjustments in the data may affect its accuracy and the consistency of comparisons across firms.

- exclusion of qualitative variables: The analysis focuses primarily on quantitative financial indicators such as Debt-to-Equity Ratio (DER), Return on Assets (ROA), and Return on Equity (ROE). However, it does not incorporate qualitative aspects like management quality, market competition, regulatory changes, or broader economic conditions, all of which could also play a significant role in determining profitability.

- assumption of capital structure stability: The analysis assumes relative consistency in firms' capital structures over time. However, actual financial strategies may shift dynamically in response to factors such as mergers, acquisitions, or external shocks, which this study does not account for.

- temporal limitations: The dataset spans the period from 2015 to 2024. Although a ten-year window offers meaningful insights, extending the timeframe could help capture longer-term patterns and cyclical fluctuations within the industry.

- limitations in establishing causality: While the study explores statistical relationships between capital structure and profitability, it does not provide conclusive evidence of causality. Unobserved or omitted variables may influence the outcomes, limiting the interpretability of the results in terms of direct cause-and-effect dynamics.

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ANNEXURES

Annexure 1

Company Profile	
Company Name	Britannia Industries Ltd
Number of shares (Cr)	24.08
Face Value	1.00
Current Price	5,021.50
Market Capitalization (Cr)	1,20,900.78

Date	04 April 2025

Control Variables		
Firm Size	1,20,900.78	*Market Capx*
Sales Growth	8.8%	*Average of last 5 years*
Asset Turnover Ratio	1.72 Times	*Average of last 5 years*

Independent Variables	Mar 15	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20	Mar 21	Mar 22	Mar 23	Mar 24
Debt-to-Equity Ratio (DER)	1.24	0.67	0.52	0.52	0.47	0.78	1.26	1.94	1.65	1.30
Total Debt to Assets (TDA)	55.4%	40.1%	34.4%	34.3%	31.8%	43.8%	55.7%	66.0%	62.2%	56.6%
Long-term Debt Ratio (LTD)	5.2%	3.8%	3.0%	3.9%	2.5%	19.6%	26.5%	33.0%	32.1%	22.8%
Short-term Debt Ratio (STD)	50.2%	36.4%	31.3%	30.5%	29.3%	24.1%	29.1%	33.0%	30.1%	33.8%

Dependent Variables	Mar 15	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20	Mar 21	Mar 22	Mar 23	Mar 24
Return on Asset (ROA)	24.7%	23.6%	21.5%	19.4%	18.6%	17.9%	23.3%	20.3%	24.8%	23.6%
Return on Equity (ROE)	55.3%	39.4%	32.8%	29.5%	27.3%	31.9%	52.5%	59.6%	65.7%	54.3%
Net Profit Margin (NPM)	8.8%	9.8%	9.8%	10.1%	10.5%	12.1%	14.2%	10.8%	14.2%	12.8%
Earnings Per Share (EPS)	0.09	0.10	0.10	0.10	0.10	0.12	0.14	0.11	0.14	0.13

Descriptive Analytics	DER	TDA	LTD	STD	ROA	ROE	NPM	EPS
Mean	1.04	48.0%	15.2%	32.8%	21.8%	44.8%	11.3%	0.11
Median	1.01	49.6%	12.4%	30.9%	22.4%	46.0%	10.6%	0.11
Standard Deviation	0.52	0.13	0.13	0.07	0.03	0.14	0.02	0.02
Maximum Value	1.94	66.0%	33.0%	50.2%	24.8%	65.7%	14.2%	0.14
Minimum Value	0.47	31.8%	2.5%	24.1%	17.9%	27.3%	8.8%	0.09

Annexure 2

Company Profile	
Company Name	Hindustan Unilever Ltd
Number of shares (Cr)	234.89
Face Value	1.00
Current Price	2,244.45
Market Capitalization (Cr)	5,27,201.34

Date	04 April 2025

Control Variables		
Firm Size	5,27,201.34	*Market Capx*
Sales Growth	9.7%	*Average of last 5 years*
Asset Turnover Ratio	1.00 Times	*Average of last 5 years*

Independent Variables	Mar 15	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20	Mar 21	Mar 22	Mar 23	Mar 24
Debt-to-Equity Ratio (DER)	2.58	1.25	1.33	1.45	1.37	1.45	0.44	0.44	0.45	0.53
Total Debt to Assets (TDA)	72.1%	55.6%	57.1%	59.2%	57.8%	59.2%	30.6%	30.4%	31.2%	34.7%
Long-term Debt Ratio (LTD)	0.3%	1.2%	1.8%	0.0%	0.5%	0.0%	0.0%	1.5%	1.7%	1.9%
Short-term Debt Ratio (STD)	71.8%	54.4%	55.3%	59.2%	57.2%	59.2%	30.6%	28.9%	29.5%	32.9%

Dependent Variables	Mar 15	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20	Mar 21	Mar 22	Mar 23	Mar 24
Return on Asset (ROA)	30.2%	28.1%	28.5%	29.2%	32.5%	33.5%	11.6%	12.6%	13.8%	13.1%
Return on Equity (ROE)	108.3%	63.2%	66.4%	71.6%	77.0%	82.0%	16.8%	18.1%	20.1%	20.1%
Net Profit Margin (NPM)	13.6%	12.9%	13.5%	14.7%	15.4%	17.0%	17.0%	16.9%	16.7%	16.6%
Earnings Per Share (EPS)	0.14	0.13	0.13	0.15	0.15	0.17	0.17	0.17	0.17	0.17

Descriptive Analytics	DER	TDA	LTD	STD	ROA	ROE	NPM	EPS
Mean	1.13	48.8%	0.9%	47.9%	23.3%	54.3%	15.4%	0.15
Median	1.29	56.3%	0.9%	54.8%	28.3%	64.8%	16.0%	0.16
Standard Deviation	0.68	0.15	0.01	0.16	0.09	0.33	0.02	0.02
Maximum Value	2.58	72.1%	1.9%	71.8%	33.5%	108.3%	17.0%	0.17
Minimum Value	0.44	30.4%	0.0%	28.9%	11.6%	16.8%	12.9%	0.13

Annexure 3

Company Profile	
Company Name	Itc Ltd
Number of shares (Cr)	1,251.72
Face Value	1.00
Current Price	409.55
Market Capitalization (Cr)	5,12,640.99

Date	04 April 2025

Control Variables		
Firm Size	5,12,640.99	*Market Cap*
Sales Growth	8.4%	*Average of last 5 years*
Asset Turnover Ratio	0.74 Times	*Average of last 5 years*

Independent Variables	Mar 15	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20	Mar 21	Mar 22	Mar 23	Mar 24
Debt-to-Equity Ratio (DER)	0.45	0.21	0.20	0.22	0.21	0.18	0.22	0.24	0.24	0.23
Total Debt to Assets (TDA)	30.9%	17.4%	17.0%	18.3%	17.6%	15.6%	18.2%	19.1%	19.4%	18.8%
Long-term Debt Ratio (LTD)	0.6%	0.2%	0.1%	0.1%	0.0%	0.4%	0.4%	0.3%	0.4%	0.3%
Short-term Debt Ratio (STD)	30.4%	17.2%	16.9%	18.2%	17.5%	15.2%	17.8%	18.8%	19.1%	18.5%

Dependent Variables	Mar 15	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20	Mar 21	Mar 22	Mar 23	Mar 24
Return on Asset (ROA)	21.0%	18.1%	18.4%	17.5%	17.6%	19.8%	17.8%	19.7%	22.4%	22.3%
Return on Equity (ROE)	30.4%	21.9%	22.2%	21.5%	21.3%	23.4%	21.8%	24.4%	27.8%	27.5%
Net Profit Margin (NPM)	24.9%	23.8%	24.1%	25.9%	26.0%	31.0%	26.7%	25.1%	27.1%	28.9%
Earnings Per Share (EPS)	0.25	0.24	0.24	0.26	0.26	0.31	0.27	0.25	0.27	0.29

Descriptive Analytics	DER	TDA	LTD	STD	ROA	ROE	NPM	EPS
Mean	0.24	19.2%	0.3%	19.0%	19.5%	24.2%	26.4%	0.26
Median	0.22	18.2%	0.3%	18.0%	19.1%	22.8%	26.0%	0.26
Standard Deviation	0.07	0.04	0.00	0.04	0.02	0.03	0.02	0.02
Maximum Value	0.45	30.9%	0.6%	30.4%	22.4%	30.4%	31.0%	0.31
Minimum Value	0.18	15.6%	0.0%	15.2%	17.5%	21.3%	23.8%	0.24

Annexure 4

Company Profile	
Company Name	Nestle India Ltd
Number of shares (Cr)	96.35
Face Value	1.00
Current Price	2,264.95
Market Capitalization (Cr)	2,18,231.00

Date	04 April 2025

Control Variables		
Firm Size	2,18,231.00	*Market Capx*
Sales Growth	14.7%	*Average of last 5 years*
Asset Turnover Ratio	1.96 Times	*Average of last 5 years*

Independent Variables	Dec 15	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20	Dec 21	Dec 22	Dec 23	Mar 24
Debt-to-Equity Ratio (DER)	1.16	1.07	1.15	1.20	2.74	2.91	3.23	2.65	2.65	2.15
Total Debt to Assets (TDA)	53.7%	51.8%	53.5%	54.6%	73.2%	74.4%	76.4%	72.6%	72.6%	68.3%
Long-term Debt Ratio (LTD)	0.3%	0.5%	0.5%	0.4%	2.6%	1.9%	3.2%	3.0%	3.0%	3.3%
Short-term Debt Ratio (STD)	53.4%	51.3%	53.1%	54.1%	70.6%	72.6%	73.1%	69.6%	69.6%	65.0%

Dependent Variables	Dec 15	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20	Dec 21	Dec 22	Dec 23	Mar 24
Return on Asset (ROA)	9.3%	14.7%	16.6%	19.9%	27.4%	26.4%	25.7%	26.6%	33.4%	37.4%
Return on Equity (ROE)	20.0%	30.5%	35.8%	43.7%	102.6%	103.1%	108.8%	97.2%	121.9%	117.7%
Net Profit Margin (NPM)	6.9%	11.0%	12.2%	14.2%	15.9%	15.6%	14.4%	14.1%	15.7%	16.1%
Earnings Per Share (EPS)	0.07	0.11	0.12	0.14	0.16	0.16	0.14	0.14	0.16	0.16

Descriptive Analytics	DER	TDA	LTD	STD	ROA	ROE	NPM	EPS
Mean	2.09	65.1%	1.9%	63.2%	23.7%	78.1%	13.6%	0.14
Median	2.40	70.4%	2.3%	67.3%	26.0%	99.9%	14.3%	0.14
Standard Deviation	0.86	0.10	0.01	0.09	0.09	0.40	0.03	0.03
Maximum Value	3.23	76.4%	3.3%	73.1%	37.4%	121.9%	16.1%	0.16
Minimum Value	1.07	51.8%	0.3%	51.3%	9.3%	20.0%	6.9%	0.07

Annexure 5

Company Profile	
Company Name	Patanjali Foods Ltd
Number of shares (Cr)	36.20
Face Value	2.00
Current Price	1,851.80
Market Capitalization (Cr)	67,035.92

Date	04 April 2025

Control Variables		
Firm Size	67,035.92	*Market Capx*
Sales Growth	21.3%	*Average of last 5 years*
Asset Turnover Ratio	2.07 Times	*Average of last 5 years*

Independent Variables	Mar 15	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20	Mar 21	Mar 22	Mar 23	Mar 24
Debt-to-Equity Ratio (DER)	5.29	5.65	11.95	-2.70	-2.77	1.33	1.22	0.86	0.34	0.30
Total Debt to Assets (TDA)	84.1%	85.0%	92.3%	158.9%	156.4%	57.2%	54.9%	46.2%	25.7%	23.0%
Long-term Debt Ratio (LTD)	26.3%	31.9%	39.3%	93.6%	99.7%	45.9%	40.6%	32.2%	11.0%	7.9%
Short-term Debt Ratio (STD)	57.8%	53.0%	53.0%	65.3%	56.7%	11.2%	14.3%	14.1%	14.7%	15.1%

Dependent Variables	Mar 15	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20	Mar 21	Mar 22	Mar 23	Mar 24
Return on Asset (ROA)	0.4%	-6.5%	-9.5%	-72.2%	1.0%	97.5%	7.6%	7.0%	6.7%	5.8%
Return on Equity (ROE)	2.8%	-42.9%	-122.8%	122.5%	-1.7%	227.6%	16.8%	13.1%	9.0%	7.5%
Net Profit Margin (NPM)	0.2%	-3.8%	-6.8%	-46.5%	0.6%	58.5%	4.2%	3.3%	2.8%	2.4%
Earnings Per Share (EPS)	0.00	-0.04	-0.07	-0.46	0.01	0.58	0.04	0.03	0.03	0.02

Descriptive Analytics	DER	TDA	LTD	STD	ROA	ROE	NPM	EPS
Mean	2.15	78.4%	42.9%	35.5%	3.8%	23.2%	1.5%	0.01
Median	1.04	70.6%	35.7%	34.1%	3.4%	8.3%	1.5%	0.02
Standard Deviation	4.42	0.48	0.31	0.23	0.41	0.94	0.25	0.25
Maximum Value	11.95	158.9%	99.7%	65.3%	97.5%	227.6%	58.5%	0.58
Minimum Value	-2.77	23.0%	7.9%	11.2%	-72.2%	-122.8%	-46.5%	-0.46

Annexure 6

Company Profile	
Company Name	Radico Khaitan Ltd
Number of shares (Cr)	13.38
Face Value	2.00
Current Price	2,340.00
Market Capitalization (Cr)	31,299.05

Date	04 April 2025

Control Variables		
Firm Size	31,299.05	*Market Capx*
Sales Growth	15.2%	*Average of last 5 years*
Asset Turnover Ratio	0.96 Times	*Average of last 5 years*

Independent Variables	Mar 15	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20	Mar 21	Mar 22	Mar 23	Mar 24
Debt-to-Equity Ratio (DER)	1.52	1.40	1.16	0.95	0.70	0.62	0.47	0.38	0.70	0.70
Total Debt to Assets (TDA)	60.3%	58.4%	53.6%	48.8%	41.1%	38.2%	32.0%	27.6%	41.3%	41.2%
Long-term Debt Ratio (LTD)	40.7%	41.5%	36.0%	26.5%	15.1%	16.3%	11.1%	7.3%	20.5%	20.2%
Short-term Debt Ratio (STD)	19.7%	16.9%	17.6%	22.3%	26.0%	21.9%	20.9%	20.2%	20.8%	20.9%

Dependent Variables	Mar 15	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20	Mar 21	Mar 22	Mar 23	Mar 24
Return on Asset (ROA)	3.2%	3.2%	3.6%	5.5%	8.4%	9.2%	10.4%	9.2%	5.6%	6.3%
Return on Equity (ROE)	8.2%	7.6%	7.8%	10.8%	14.3%	15.0%	15.3%	12.7%	9.5%	10.8%
Net Profit Margin (NPM)	4.8%	4.5%	4.8%	6.9%	9.1%	9.5%	11.4%	8.8%	6.5%	6.2%
Earnings Per Share (EPS)	0.05	0.04	0.05	0.07	0.09	0.10	0.11	0.09	0.07	0.06

Descriptive Analytics	DER	TDA	LTD	STD	ROA	ROE	NPM	EPS
Mean	0.86	44.3%	23.5%	20.7%	6.5%	11.2%	7.3%	0.07
Median	0.70	41.3%	20.4%	20.9%	6.0%	10.8%	6.7%	0.07
Standard Deviation	0.39	0.11	0.12	0.03	0.03	0.03	0.02	0.02
Maximum Value	1.52	60.3%	41.5%	26.0%	10.4%	15.3%	11.4%	0.11
Minimum Value	0.38	27.6%	7.3%	16.9%	3.2%	7.6%	4.5%	0.04

Annexure 7

Company Profile	
Company Name	Tata Consumer Products Ltd
Number of shares (Cr)	98.90
Face Value	1.00
Current Price	1,087.80
Market Capitalization (Cr)	1,07,586.94

Date	04 April 2025

Control Variables		
Firm Size	1,07,586.94	*Market Capex*
Sales Growth	16.3%	*Average of last 5 years*
Asset Turnover Ratio	0.57 Times	*Average of last 5 years*

Independent Variables	Mar 15	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20	Mar 21	Mar 22	Mar 23	Mar 24
Debt-to-Equity Ratio (DER)	0.72	0.58	0.52	0.49	0.48	0.34	0.39	0.39	0.40	0.74
Total Debt to Assets (TDA)	41.9%	36.9%	34.4%	32.8%	32.6%	25.2%	28.1%	28.2%	28.5%	42.4%
Long-term Debt Ratio (LTD)	14.0%	13.7%	8.2%	10.2%	10.5%	8.6%	8.1%	6.7%	7.0%	12.5%
Short-term Debt Ratio (STD)	27.9%	23.2%	26.2%	22.6%	22.1%	16.6%	20.0%	21.5%	21.5%	29.9%

Dependent Variables	Mar 15	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20	Mar 21	Mar 22	Mar 23	Mar 24
Return on Asset (ROA)	2.6%	-0.1%	4.1%	4.7%	3.8%	2.5%	4.2%	4.4%	5.3%	4.1%
Return on Equity (ROE)	4.5%	-0.1%	6.2%	7.0%	5.6%	3.3%	5.9%	6.2%	7.4%	7.2%
Net Profit Margin (NPM)	3.1%	-0.1%	5.7%	7.3%	5.6%	4.8%	7.4%	7.5%	8.7%	7.6%
Earnings Per Share (EPS)	0.03	0.00	0.06	0.07	0.06	0.05	0.07	0.08	0.09	0.08

Descriptive Analytics	DER	TDA	LTD	STD	ROA	ROE	NPM	EPS
Mean	0.51	33.1%	9.9%	23.1%	3.6%	5.3%	5.8%	0.06
Median	0.49	32.7%	9.4%	22.4%	4.1%	6.0%	6.5%	0.07
Standard Deviation	0.14	0.06	0.03	0.04	0.02	0.02	0.03	0.03
Maximum Value	0.74	42.4%	14.0%	29.9%	5.3%	7.4%	8.7%	0.09
Minimum Value	0.34	25.2%	6.7%	16.6%	-0.1%	-0.1%	-0.1%	0.00

Annexure 8

Company Profile	
Company Name	Varun Beverages Ltd
Number of shares (Cr)	338.22
Face Value	2.00
Current Price	535.00
Market Capitalization (Cr)	1,80,946.43

Date	04 April 2025

Control Variables		
Firm Size	1,80,946.43	*Market Capex*
Sales Growth	24.6%	*Average of last 5 years*
Asset Turnover Ratio	0.95 Times	*Average of last 5 years*

Independent Variables	Dec 15	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20	Dec 21	Dec 22	Dec 23	Dec 24
Debt-to-Equity Ratio (DER)	18.76	1.85	1.98	2.00	1.52	1.40	1.35	1.28	1.19	0.39
Total Debt to Assets (TDA)	94.9%	64.9%	66.5%	66.7%	60.3%	58.3%	57.4%	56.1%	54.3%	28.2%
Long-term Debt Ratio (LTD)	57.0%	45.9%	50.3%	46.8%	40.8%	38.1%	35.4%	33.4%	35.8%	12.2%
Short-term Debt Ratio (STD)	37.9%	19.0%	16.2%	19.9%	19.5%	20.2%	22.1%	22.7%	18.6%	15.9%

Dependent Variables	Dec 15	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20	Dec 21	Dec 22	Dec 23	Dec 24
Return on Asset (ROA)	2.6%	0.9%	4.0%	4.9%	5.6%	3.9%	7.2%	12.9%	13.5%	11.2%
Return on Equity (ROE)	50.4%	2.5%	11.9%	14.7%	14.1%	9.3%	17.0%	29.3%	29.6%	15.6%
Net Profit Margin (NPM)	3.3%	1.1%	5.2%	5.7%	6.6%	5.1%	7.9%	11.4%	12.8%	13.0%
Earnings Per Share (EPS)	0.03	0.01	0.05	0.06	0.07	0.05	0.08	0.11	0.13	0.13

Descriptive Analytics	DER	TDA	LTD	STD	ROA	ROE	NPM	EPS
Mean	3.17	60.8%	39.6%	21.2%	6.7%	19.4%	7.2%	0.07
Median	1.46	59.3%	39.4%	19.7%	5.2%	15.1%	6.2%	0.06
Standard Deviation	5.50	0.16	0.12	0.06	0.04	0.14	0.04	0.04
Maximum Value	18.76	94.9%	57.0%	37.9%	13.5%	50.4%	13.0%	0.13
Minimum Value	0.39	28.2%	12.2%	15.9%	0.9%	2.5%	1.1%	0.01

Ankit

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