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A Study on Cost of Capital and its Impact on Firm Value: A Case Study of Blue Star Limited

[1]Gurbhej singh[2]Manmay Shukla[3]Priyanshi Sahu[4]Prerna Singh

[1234]MBA students at Lovely Professional University manmayshukla@gmail.com

ABSTRACT

The cost of capital is central to corporate finance because it influences investment decisions, valuation and performance measurement. A company creates value when its returns exceed its cost of capital and destroys value when they fall below it. This study examines the cost of capital of Blue Star Limited, a leading Indian air-conditioning, refrigeration and MEP services company, for FY2021 to FY2025. The cost of equity is estimated using the Capital Asset Pricing Model (CAPM), the cost of debt is derived from financial statement data, and the two are combined into the Weighted Average Cost of Capital (WACC).

Blue Star's WACC rose from approximately 12.0% in FY2021 to 13.7% in FY2025, mainly because of a shift in capital structure following the ₹1,000 crore Qualified Institutional Placement (QIP) and bonus share issue in 2023. Over the same period, Return on Capital Employed (ROCE) rose from 13% to 26%. ROCE remained above WACC in every year, and the company therefore created value for its capital providers.

Keywords: *Cost of Capital, WACC, CAPM, Cost of Equity, Cost of Debt, Capital Structure, Firm Value, Blue Star Limited, ROCE.*

INTRODUCTION

Every business raises funds through shareholders' equity and borrowings, and both carry a cost because investors expect a return. This expected return is the cost of capital: the minimum return a company must earn on its investments to satisfy its investors. It is used in project evaluation, valuation, capital budgeting and performance measurement. A company earning below its cost of capital may report accounting profits yet fail to create economic value, whereas returns above it increase shareholder wealth.

The cost of capital has two components: the cost of equity, which reflects the return expected by shareholders for bearing business risk, and the after-tax cost of debt, which represents the borrowing cost. Combined according to their proportions in the financing mix, they give the WACC.

This study focuses on Blue Star Limited, an Indian company engaged in air-conditioning, commercial refrigeration, cold-chain solutions and MEP services, operating in a competitive and capital-intensive industry. Its large QIP and bonus share issue in 2023 changed its capital structure significantly, making it a suitable case for examining the relationship between cost of capital and firm value. The study estimates Blue Star's cost of equity, cost of debt and WACC for FY2021–FY2025 and compares WACC with ROCE to determine whether the company has been creating value.

REVIEW OF LITERATURE

Hussain. Examined listed companies in Pakistan and found that firms with lower financing costs generally achieved better performance, although the strength of the relationship depended on how well debt levels and financial structure were managed.

Kurniasih et al. Studied Indonesian companies and found that debt financing and capital structure influenced market valuation, with findings differing across countries depending on local economic conditions.

Emerging market capital structure study. Found that moderate debt can increase firm value through tax advantages,

while excessive debt raises financial risk and may reduce value, supporting the idea of an optimal capital structure.

Textile industry study. Examined listed textile firms in Pakistan and found that strong financial management and transparent reporting were associated with higher valuations and profitability.

Panchal and Chand (2023). Analysed listed Indian manufacturing companies and found that excessive debt negatively affected profitability, suggesting a balanced financing structure.

Habibniya et al. (2022). Studied US telecommunications companies and concluded that firms create greater shareholder value with an efficient mix of debt and equity; trade-off theory and pecking order theory were discussed as explanations.

Bangladesh manufacturing study. Found that the relationship between leverage and performance is complex and varies across industries, so company-specific and sector-specific factors must be considered.

EVA and WACC study (India). Reported that companies with stronger financial management practices were more likely to create shareholder value and that firms must earn returns above their cost of capital for sustainable value creation.

RBSA Advisors (2020). Estimated the cost of debt, cost of equity and WACC of listed Indian companies, showing that cost of capital varies across sectors with business risk and financing patterns, and stressing comparison with industry benchmarks.

NSE study (2013). Estimated the cost of capital of Nifty companies and found that WACC changes with economic conditions, interest rates and market expectations; rising rates generally raise the cost of debt and overall cost of capital.

Voluntary disclosure study. Found that companies providing better-quality information often enjoy a lower cost of capital because transparency reduces investor uncertainty.

Profitability and capital structure study. In a manufacturing-sector study, profitability and financing decisions influenced firm value more strongly than firm size.

Synthesis. The literature agrees that capital structure significantly affects the overall cost of capital: moderate debt can lower financing costs through tax advantages, while excessive debt raises risk and reduces value. The relationship between cost of capital and firm value is not uniform and depends on industry, economic environment and company-specific factors. Several studies also stress that computing WACC is not enough; it should be compared with the returns the business generates.

NEED OF STUDY AND RESEARCH GAP

Most Indian studies examine large groups of companies, sectors or indices, so the financing decisions and capital structure changes of individual companies receive limited attention. Very few studies focus on the consumer durables, HVAC, refrigeration and MEP sectors, whose seasonal demand, heavy working capital needs and project-based revenues make financing decisions distinctive. Many studies also stop at calculating the cost of capital without comparing WACC with operating indicators such as ROCE to establish whether value is actually created. This study addresses these gaps by focusing on Blue Star Limited and directly comparing WACC with ROCE over five years.

OBJECTIVES OF THE STUDY

Primary objective: To analyse the cost of capital of Blue Star Limited and evaluate its impact on firm value during FY2021 to FY2025.

Specific objectives:

- To estimate the cost of equity using the Capital Asset Pricing Model (CAPM).
- To calculate the cost of debt and WACC for FY2021–FY2025.
- To examine changes in the company's capital structure during the study period.
- To compare WACC with ROCE to evaluate value creation.
- To understand the impact of financing decisions on the company's performance and value.

RESEARCH METHODOLOGY

Research design and data. The study is quantitative, descriptive and analytical, using a case study of Blue Star Limited over FY2021–FY2025. It is based entirely on secondary data from the company's annual reports, financial statements on Screener.in, market and valuation data from TipRanks, Government of India 10-year bond yields, and published journals and industry reports. The period captures Blue Star's post-pandemic recovery, rapid growth and the capital structure changes following the 2023 QIP.

Variables and formulas

Cost of equity (CAPM): $K_e = R_f + \beta (R_m - R_f)$, where R_f is the risk-free rate, β is the beta of Blue Star and $(R_m - R_f)$ is the equity risk premium.

Cost of debt: K_d = Interest expense ÷ Average borrowings; post-tax $K_d = K_d (1 - T)$, where T is the effective tax rate.

WACC: WACC = (We × Ke) + (Wd × Kd after tax), where We and Wd are the weights of equity and debt.

ROCE: ROCE = (EBIT ÷ Capital employed) × 100. ROCE above WACC indicates value creation; ROCE below WACC indicates value destruction.

Analytical approach. (1) Estimation of cost of equity, cost of debt and WACC; (2) analysis of capital structure changes; (3) comparison of WACC with ROCE to assess value creation.

DATA ANALYSIS AND INTERPRETATION

1. Key financial performance

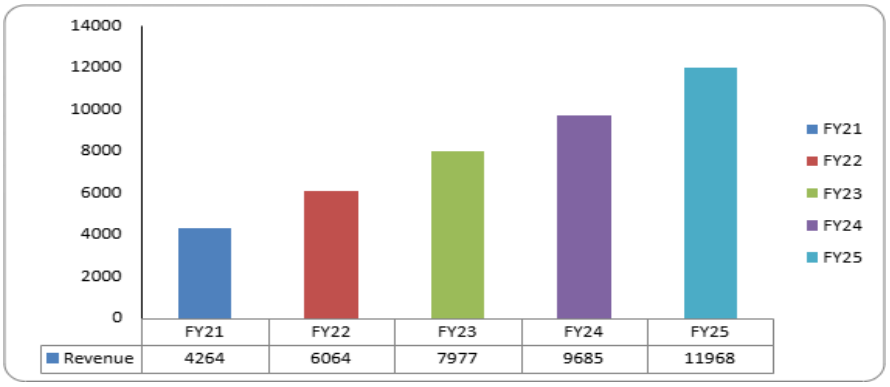
Revenue increased from ₹4,264 crore in FY2021 to ₹11,968 crore in FY2025, and net profit rose from ₹101 crore to ₹591 crore. Net sales nearly tripled while net profit increased almost six times, indicating business expansion together with improved efficiency and margins. Shareholders' equity grew from ₹885 crore to ₹3,065 crore, mainly through retained earnings, the QIP and the bonus share issue, while borrowings remained under control. ROCE improved from 13% to 26%, reflecting better utilisation of invested capital.

Table 1: Key indicators of Blue Star Limited, FY2021 and FY2025

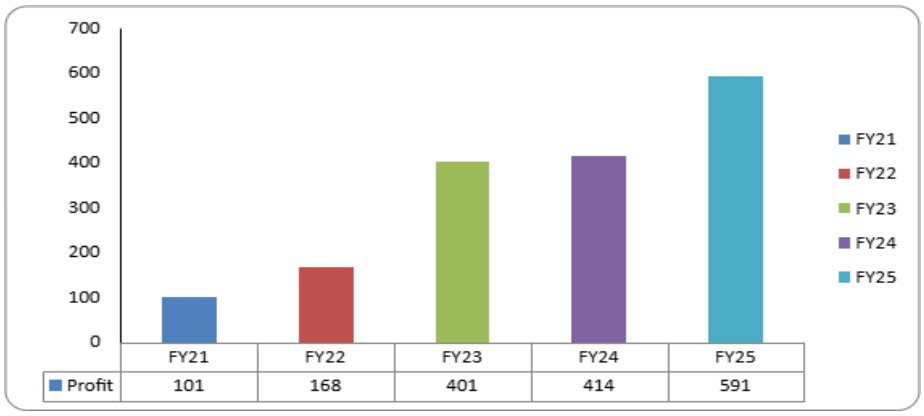
Indicator	FY2021	FY2025	Change
Revenue (₹ crore)	4,264	11,968	≈ 2.8 times
Net profit (₹ crore)	101	591	≈ 5.9 times
Shareholders' equity (₹ crore)	885	3,065	Increase
Equity as % of capital employed	63.4%	≈ 89%	Increase
Cost of equity (CAPM)	≈ 13.9%	≈ 13.9%	Constant
WACC	≈ 12.0%	≈ 13.7%	+1.7 pp
ROCE	13%	26%	+13 pp
ROCE − WACC spread	≈ 1 pp	> 12 pp	Widened

Source: Annual reports and Screener.in; author's calculations.

Revenue Growth Trend



Net Profit Growth



2. Cost of equity

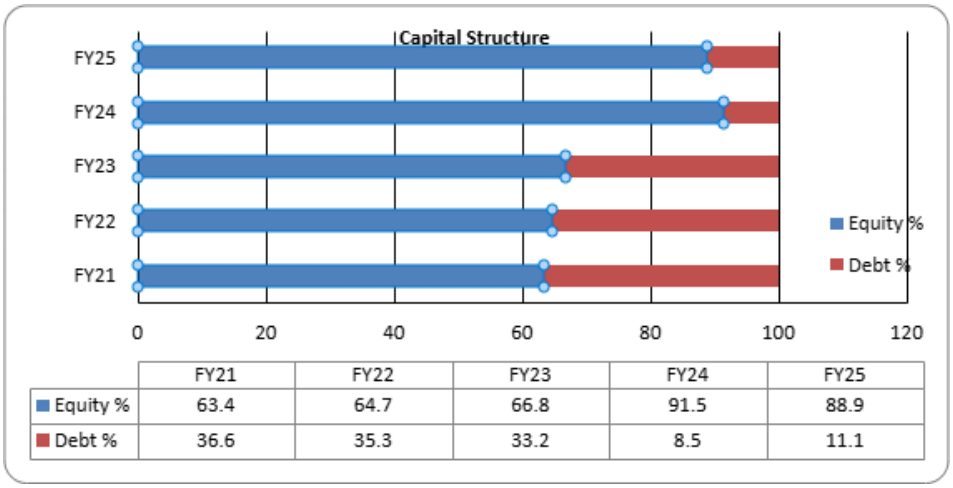
Using Rf = 7.0%, β = 1.06 and an equity risk premium of 6.5%, Ke = 7.0% + (1.06 × 6.5%) ≈ 13.9%. This was held constant across the period because reliable year-wise beta values were not available from public sources. Shareholders therefore expect a return near 13.9%, which stays well above the cost of debt because equity investors bear higher risk than lenders.

3. Cost of debt

The post-tax cost of debt fluctuated between approximately 5.8% and 11.8% with changes in borrowing levels and interest expense. Borrowings declined significantly after FY2023. Debt remained a cheaper source of finance than equity throughout, which is why changes in the debt–equity mix directly affected WACC.

4. Capital structure

Equity rose steadily from about 63.4% of capital employed in FY2021 to nearly 89% in FY2025, while the share of debt fell sharply. This was driven mainly by the ₹1,000 crore QIP and bonus share issue in 2023, which strengthened the financial position and reduced dependence on debt. The trend shows management's preference for financial stability and lower leverage, even though greater reliance on equity raised the overall cost of capital.



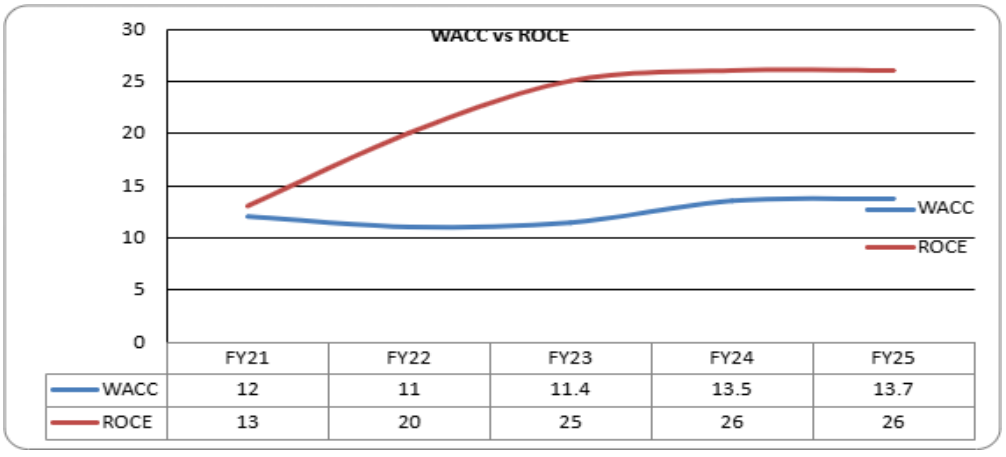
	FY21	FY22	FY23	FY24	FY25
Equity %	63.4	64.7	66.8	91.5	88.9
Debt %	36.6	35.3	33.2	8.5	11.1

5. Weighted average cost of capital

WACC did not decline despite strong performance; it increased from about 12.0% in FY2021 to 13.7% in FY2025. Because equity is costlier than debt, a larger equity share raised the weighted cost. The rise therefore reflects a more conservative financing structure rather than worsening performance or higher business risk.

6. WACC versus ROCE

This comparison is the core of the study. ROCE remained above WACC in every year. In FY2021 the spread was only about 1 percentage point, but it widened significantly from FY2022 onwards. By FY2025, ROCE of about 26% against WACC of about 13.7% gave a positive spread of more than 12 percentage points. Returns on invested capital were therefore consistently greater than the cost of obtaining that capital, which indicates that Blue Star created economic value throughout the study period.



	FY21	FY22	FY23	FY24	FY25
WACC	12	11	11.4	13.5	13.7
ROCE	13	20	25	26	26

FINDINGS

- Blue Star's WACC increased from approximately 12.0% in FY2021 to around 13.7% in FY2025.
- The increase in WACC was due mainly to changes in capital structure rather than increased business risk.
- The share of debt financing declined significantly after FY2023 because of the QIP and bonus share issue.
- Cost of equity remained consistently higher than cost of debt.
- Revenue grew from ₹4,264 crore to ₹11,968 crore and net profit from ₹101 crore to ₹591 crore.

- ROCE increased from 13% to 26%, showing improved efficiency in the use of capital.
- ROCE exceeded WACC in all five years, indicating continuous value creation, and the spread widened significantly after FY2022.

CONCLUSION

The study analysed Blue Star Limited's cost of capital and its impact on firm value for FY2021–FY2025. WACC rose gradually, primarily because of the financing changes that followed the 2023 QIP and bonus share issue. Even so, the company kept operating returns well above this level, supported by strong growth in revenue, profitability and capital efficiency. The widening gap between ROCE and WACC shows that Blue Star consistently created value for shareholders and lenders while maintaining a financially stable capital structure, highlighting the importance of efficient capital management for long-term shareholder value.

LIMITATIONS OF THE STUDY

- A single beta value was applied across all five years, which may not capture year-to-year changes in market risk.
- The cost of debt was estimated from accounting data and may not reflect the actual market borrowing cost.
- Book-value weights were used for WACC instead of market-value weights.
- The study covers only Blue Star Limited, so findings cannot be generalised to other companies or industries.
- Changes in economic conditions, interest rates and investor expectations are difficult to incorporate fully.

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