

Cost of Capital Analysis of Ashok Leyland Limited: A Five Year Financial Study

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ABSTRACT

Cost of capital represents an important concepts in corporate finance. It is the minimum required rate of return that a company should be looking for with the money that it has invested into its business. The capital structure of a company is a mix of debt and equity funds that a company can use to deal with the costs and risks associated with debt and equity financing, but can also manage long-term growth and value creation. This study aims to evaluate the cost of capital of Ashok Leyland Limited, a well-known commercial vehicle manufacturer in India for the past five financial years (2020-21 to 2024-25).

The analysis is primarily based on secondary data sources such as annual reports and other publicly available financial data. Key aspects of capital investment by the company like debt and equity are discussed, cost of debt, cost of equity and WACC. An estimate of the cost of equity is estimated using the CAPM approach, while the cost of debt is calculated as finance cost/average debt, and the capital structure weights are calculated using year end book value. The research also examines the Capital Structure of the company, debt-equity ratio and financing pattern within the firm during the study period. The Debt/Equity ratio decreased from 0.54 to 0.13 over 5 years, the equity weight increased from 64.99% to 88.60% over 5 years and the WACC was within 12.08% to 14.27% during the 5 years.

The study also aims to gain insight into the effect of the alteration in financing structure on Ashok Leyland's overall cost of capital and the implications of the same on financial decision making. The result will be applied in the development of a structured knowledge of the relationship between the capital structure and financing costs, as well as assessing the company's financial strategy.

KEYWORDS - Cost of Capital, Cost of Debt, Cost of Equity, CAPM, WACC, Capital Structure, Debt to Equity Ratio, Ashok Leyland Financial Reports.

1. INTRODUCTION

The modern corporate finance theory gives significant importance to the availability and effective utilization of financial resources in determining the sustainability of the business in the long term. Every organization needs fund for investing, new product development, strategic ventures, production capacity expansion and operations. It is possible to have this capital available from various sources, usually equity and debt, and each source has its associated cost. These financing costs can be summed up and are often known as the firm's cost of capital.

Cost of capital is the lowest rate of return a company can make on its investments and still meet the expectations of its suppliers of capital. It is therefore important as a basis for investment appraisal, capital budgeting, financing decisions and corporate valuation. When a company is able to make returns that exceed the cost of its capital, it has the potential to generate economic value, but when it makes returns below the cost of capital it does not cover the costs imposed on its capital.

Among the financial management's important measures which weights the costs associate with the various sources of long-term finance in the capital structure is the Weighted Average Cost of Capital (WACC). The two basic components are the cost of equity and after-tax cost of debt. If preference shares are involved in the financing, then the financing cost of the preference shares can be added also.

The capital structure along with the cost of capital are particularly concern for firms in capital intensive industries. The commercial vehicle industry is a very high capital investment industry, with significant investments in manufacturing plants, R&D, technology, supply chains and product development, along with the move toward clean mobility. Consequently, companies in this sector will be greatly impacted by financial decisions and risks faced they encounter.

Ashok Leyland Limited is among the prominent companies of India's commercial vehicle sector. Lots of years of commercial vehicle experience and a portfolio of trucks, buses and vehicle applications. It also has new mobility and sustainable transport activities.

Ashok Leyland's financials have undergone a drastic transformation as the company experienced a loss of ₹81,078 lakh in FY 2020-21 and turned profitable after tax with a profit of ₹3,303.29 crore in FY 2024-25 (Table 1). The company releases an annual report, which gives information on the company's revenue, profitability, borrowings, equity, finance costs and other financial indicators, which can be used to understand the financing structure of the company. The standalone revenue generated from business activities and PAT stood at ₹38,752.74 crore and ₹3,303.29 crore respectively in FY 2024-25 as compared to ₹38,367.03 crore and ₹2,617.87 crore respectively in FY 2023-24, according to the annual report.

Thus the cost of capital of Ashok Leyland is studied for five years (FY 2020-21 to 24-25). The analysis will link the changes in the financing mix of the Ashok Leyland to the debt cost, equity cost and the company's WACC.

2. REVIEW OF LITERATURE

Theories and empirical research on the cost of capital and capital structure have increased in number. Previous studies examined the financing composition of firms, the relationship between debt and equity financing and financial risk, along with the relationship between financing cost, corporate investment and value creation.

An early theory of capital structure was developed by Modigliani and Miller (1958), which examines how financing choices influence firm value under a series of restrictive assumptions. It provides an important basis for subsequent research on capital structure and cost of capital.

Later, Modigliani and Miller (1963) added the effect of corporate taxation to the capital structure model. Interest payments are tax deductible, which gives debt financing a tax advantage and therefore affects the impact of debt financing on the firm's overall cost of capital.

Jensen and Meckling (1976) discussed the agency issues within the firm and the conflicts between managers, shareholders and debt holders. Their findings are relevant to capital structure since capital structure decisions may impact agency cost and management incentives.

Myers (1984) talked about the problem of "information asymmetry" in corporate financing. The pecking-order theory states that companies tend to rely on internal financing first and only then on external debt and/or equity funds, as information costs create greater difficulty in access external funds.

The Myers-Majluf (1984) argument continues along the information theme, and offers explanations for the different options that the firm might consider should it wish to raise a financing mix that matches its information.

Rajan and Zingales (1995) provided the results of capital structure determinants across countries and concluded that profitability, size, asset tangibility and market-to-book ratio are important determinants of financing.

The empirical study examining the determinants of capital structure was conducted by Frank and Goyal (2009) and they found some firm level characteristics that provide insight in the decision making of corporate financing.

Previous research has shown that the cost and composition of capital is inextricably linked with the operating characteristics, financial risk and taxation and financing needs of the firm. Although it is important to generalise the overall analysis, it would be beneficial to have a sector-specific analysis as well, and a company in a more capital intensive sector might need more finance than a company in a less capital intensive sector. For this study, the above concepts were explored in the context of Ashok Leyland Limited using financial data from the previous five years.

3. NEED OF THE RESEARCH

The cost of capital has a significant role in financial decision making as it gives an indication of the return on investment to be evaluated. The financing cost of a company can vary with changes in debt, interest cost, equity financing and market conditions.

This study is needed because the commercial vehicle industry is a capital-intensive business and financing is important for the expansion of manufacturing, technological improvement and business transformation.

While there is considerable discussion in financial literature on general capital structure and cost of capital theories, company-specific analysis offers a more realistic perspective on the operation of these concepts in an actual company.

Over the last five years (FY 2020–21 to FY 2024–25), this study looks into the financial dynamics of Ashok Leyland. The company's official annual-report archive provides the relevant annual reports for these financial years.

The research is conducted to examine the changes in the capital structure of Ashok Leyland during the selected period, the effect of debt financing on the capital cost, the calculation of the equity cost through the CAPM, the changing position of the WACC during the five years, and the interpretation of the capital structure of Ashok Leyland within the context of corporate financial decision making.

4. RESEARCH GAP

A considerable amount of literature, theoretical and empirical, deals with the issues of capital structure, financing decisions and costs of capital. However, a significant amount of this literature has explored the financing structure within a general sample of firms or industries, rather than the recent financing structure of a specific Indian commercial vehicle manufacturer.

Furthermore, a multi-year accounting of debt, equity and financing costs can yield insights which may not be provided by a one-year analysis.

Hence, the present study tries to fill this gap by analysing Ashok Leyland Limited for five years, to study the connection between capital structure and cost of capital for the firm using its annual-report data.

5. OBJECTIVES OF THE RESEARCH

This research aims to analyse the financing structure of Ashok Leyland Limited and the financing of its capital for the period of FY 2020–21 to FY 2024–25. It also aims to determine the debt cost, the equity cost based on the CAPM, and the WACC, and to assess their changes over the study period. This research also evaluates the relationship of capital structure, financial risk with the cost of capital.

6. RESEARCH METHODOLOGY

6.1 Research Design

The research design of the study is Quantitative, Descriptive and Analytical. It analyses the financial data of Ashok Leyland covered five financial years and uses well-known financial-management principles and methods to estimate the elements of the cost of capital. The study is a single-company, time-series case study: the same set of calculations is carried out for each of the five years, and the findings are subsequently compared year wise. The unit of analysis is Ashok Leyland Limited and the unit of time is the financial year.

6.2 Nature of Data and Study Period

The research is based on secondary data. The key sources are the company annual reports and financial disclosures of Ashok Leyland Limited. The selected period is FY 2020–21, FY 2021–22, FY 2022–23, FY 2023–24 and FY 2024–25. The data are annual, quantitative and expressed in ₹ crore, except for ratios, which are expressed as percentages or as a plain ratio. The study period is kept the same for every calculation in the paper.

6.3 Sources of Data

The major sources are the Ashok Leyland annual reports, company financial statements, company investor disclosures, and relevant market data as required for the CAPM. The annual reports for all five years (FY 2020–21 to FY 2024–25) are listed in the References. The following information is obtained from the Ashok Leyland annual reports: revenue from operations, total income, profit before tax (PBT), profit after tax (PAT), finance/interest cost, the debt (borrowings) balance and the equity balance for each year. The financial information in Table 1 is taken from the company's standalone financial statements.

The CAPM inputs (risk-free rate, beta and expected market return) are market-based inputs and are not taken from the annual reports. The risk-free rate for each year is the yield on the 10-year Government of India benchmark security at the close of the financial year. The equity beta of 1.55 is used as a fixed value for all five years. The expected market return of 12.00% is a study assumption, kept unchanged throughout the five year period; it is not a sourced historical market return. The values used for each year are given in Table 4.

6.4 Variables and Definitions

The variables given below are used in the research. All of them are assessed separately across the five financial years.

- **Debt Capital (D):** the borrowings of the company, taken at book value from the balance sheet at the close of each financial year (Table 2).

- **Equity Capital (E):** the shareholders' equity of the company, taken at book value from the balance sheet at the end of each financial year (Table 2).
- **Total Capital:** Equity Capital plus Debt Capital. No preference share capital is included in Total Capital in this study.
- **Debt/Equity ratio:** Debt Capital divided by Equity Capital (the Debt-to-Equity Ratio).
- **Finance/Interest Cost (I):** the finance cost reported in the profit and loss statement of the company during the year.
- **Average Debt:** calculated as the mean of the opening and closing debt balances for the year.
- **Profit Before Tax (PBT) and Profit After Tax (PAT):** as reported by the firm (Table 1). They are used to derive the tax rate.
- **Tax rate (T):** the effective tax rate of the year, derived as $(PBT - PAT) \div PBT$.
- **Risk-free rate (Rf), beta (β) and expected market return (Rm):** the CAPM inputs given in Table 4.
- **Cost of equity (Ke), pre-tax cost of debt (Kd), after-tax cost of debt, equity weight (We), debt weight (Wd) and WACC:** the estimated outputs, defined in Section 7.

6.5 Analytical Techniques

The study adopts the following analytical tools: Debt-Equity Analysis, Cost of Debt, CAPM-Based Cost of Equity, Capital Structure Weights, WACC, Year-wise Trend Analysis, and Interpretation of Change in Financing Structure. Trend analysis in this study means reading the five-year movement of the figures in the tables and charts; no additional statistical method has been applied. The charts (Figures 1 to 4) are drawn only from the figures presented in Tables 1 to 5.

6.6 Sequence of Calculations

The calculations proceed from the raw financial data to the final WACC in the following order, separately for each year:

1. Collect from the annual reports the revenue, total income, PBT, PAT, finance cost, debt and equity (Tables 1 and 2).
2. Add Debt Capital and Equity Capital to obtain Total Capital, and divide Debt Capital by Equity Capital to obtain the Debt/Equity ratio (Table 2).
3. Calculate Average Debt from the opening and closing Debt Capital (Table 3).
4. Divide the finance cost by Average Debt to obtain the pre-tax cost of debt, Kd (Table 3).
5. Derive the tax rate from PBT and PAT, and obtain the after-tax cost of debt as $Kd(1 - T)$ (Table 3).
6. Calculate the cost of equity, Ke, using the CAPM from the risk-free rate, beta and expected market return (Table 4).
7. Calculate the equity weight and the debt weight from the closing book values of equity and debt (Table 5).
8. Calculate the WACC by weighting Ke and the after-tax cost of debt with the equity weight and debt weight (Table 5).
9. Compare the results over the five years and interpret them (Sections 8 and 9).

The figures in the tables are shown rounded to two decimal places. The calculations were carried at higher precision, so re-computing a result from already-rounded entries may differ in the second

decimal place (for example, the FY 2023–24 WACC is 12.97% when calculated from unrounded inputs).

7. MODEL FRAMEWORK

The basic financial model applied in this study is presented below. The equations are used in the order – 6.6.

Cost of equity (CAPM):

$$K_e = R_f + \beta(R_m - R_f) \quad (1)$$

K_e = Cost of Equity; R_f = Risk-free rate, the return on a security that is considered to carry no default risk; β = Equity beta, the sensitivity of the return on the firm's shares to the return on the market; and $R_m - R_f$ = Premium for market risk. The risk free rate and the return of the market are assumed to be the same for each year as specified in Table 4 and the same beta of 1.55 is assumed for each of the five years. In this respect the CAPM adopts the method of Sharpe (1964). The sources of the inputs are discussed in Section 6.3.

Cost of debt:

$$K_d = [I + (RV - NP)/n] / [(RV + NP)/2] \times 100 \quad (2)$$

I = Interest, RV = Redeemable Value, NP = Net Proceeds, n = Number of years. The general form of the cost of a debt instrument is given in equation (2). For this study, the pre-text cost of debt shown in table is determined by relating the finance cost reported for the year to the average debt balance. This approach is based on the firm's overall borrowings rather than on any specific debt instrument.

$$K_d = (\text{Finance Cost} \div \text{Average Debt}) \times 100 \quad (3)$$

$$\text{Opening Debt} + \text{Closing Debt} / 2 = \text{Average Debt} \quad (4)$$

The finance/interest cost of the respective year (as reported in the profit and loss statement) is designated as Finance Cost, while the Debt Capital at the close of the preceding financial year and the close of the current year (Table 2) are respectively called Openings Debt and Closings Debt.

Cost of debt after taxes have been applied. After-tax cost of debt:

$$\text{After-tax } K_d = K_d(1 - T) \quad (5)$$

$$T = (PBT - PAT) \div PBT \quad (6)$$

This is obtained from equation (3) where K_d = pre-tax cost of debt and T = tax rate. The effective tax rate for the year (T) is defined as the tax expense ($PBT - PAT$) expressed as a percentage of PBT for

the year as given in Table 1. This replicates the tax rates in Table 3. The tax rate is applied to the amount calculated (including when the rate is negative FY 2021-22).

Capital structure weights:

$$W_e = E / (D + E) \quad (7)$$

$$W_d = D / (D + E) \quad (8)$$

$$\text{Debt/Equity} = D / E \quad (9)$$

With E = Equity (closing Equity Capital); D = Debt (closing Debt Capital); W_e = Weight of equity; and W_d = Weight of debt. The weights are taken from the book value (BV) at the close of each financial year as given in Table 2. All 5 years are on the same book value basis.

Using the formula for WACC:

$$\text{WACC} = W_e \times K_e + W_p \times K_p + W_d \times K_d(1 - T) \quad (10)$$

Here W_p = weight of preference capital and K_p = cost of preference capital. If preference capital is included in the capital structure, the share of preference capital can be considered when calculating WACC. The financing structure in Table 2 doesn't include any preference capital, which means that $W_p = 0$ and the WACC given in Table 5 will be $W_e \times K_e + W_d \times K_d(1 - T)$.

8. DATA ANALYSIS AND INTERPRETATION

The financial analysis is built around the five selected financial years. Tables 1 to 5 present the financial data and the capital cost components across the five years, each followed by its interpretation. Figures 1 to 4 show the same figures in chart form.

8.1 Revenue and Profitability

Table 1. Selected Standalone Financial Performance (₹ crore)

Financial Year	Revenue from Operations	Total Income	Profit Before Tax	Profit After Tax
FY 2020–21	15,301.45	15,420.95	(411.91)	(313.68)
FY 2021–22	21,688.29	21,764.42	527.61	541.83
FY 2022–23	36,144.14	36,260.28	2,110.40	1,380.11
FY 2023–24	38,367.03	38,613.60	3,792.18	2,617.87
FY 2024–25	38,752.74	39,002.99	4,348.29	3,303.29

Source: Ashok Leyland Limited Annual Reports, FY 2020–21 to FY 2024–25 (standalone financial statements); figures in ₹ crore; figures in brackets are losses.

Revenue from operations increased in every year of the study period, from ₹15,301.45 crore in FY 2020–21 to ₹38,752.74 crore in FY 2024–25, which is about two and a half times the opening level. The increase was sharpest in FY 2021–22 (₹21,688.29 crore) and FY 2022–23 (₹36,144.14 crore). After that the growth slowed down, with revenue of ₹38,367.03 crore in FY 2023–24 and ₹38,752.74 crore in FY 2024–25, an increase of about 1 per cent in the last year. Total income stayed slightly above revenue from operations in all five years.

Profitability followed a different pattern from revenue. The company reported a loss in FY 2020–21 (PBT of ₹(411.91) crore and PAT of ₹(313.68) crore), returned to profit in FY 2021–22, and PAT then increased in each following year to reach ₹3,303.29 crore in FY 2024–25. In the last year PAT grew by about 26 per cent while revenue grew by about 1 per cent. Thus the improvement in profit in the later years did not depend on a similar expansion of revenue, as the earlier years' profit growth did. The five-year profit recovery is important for this study because it forms the background to the changes in the financing structure discussed below.

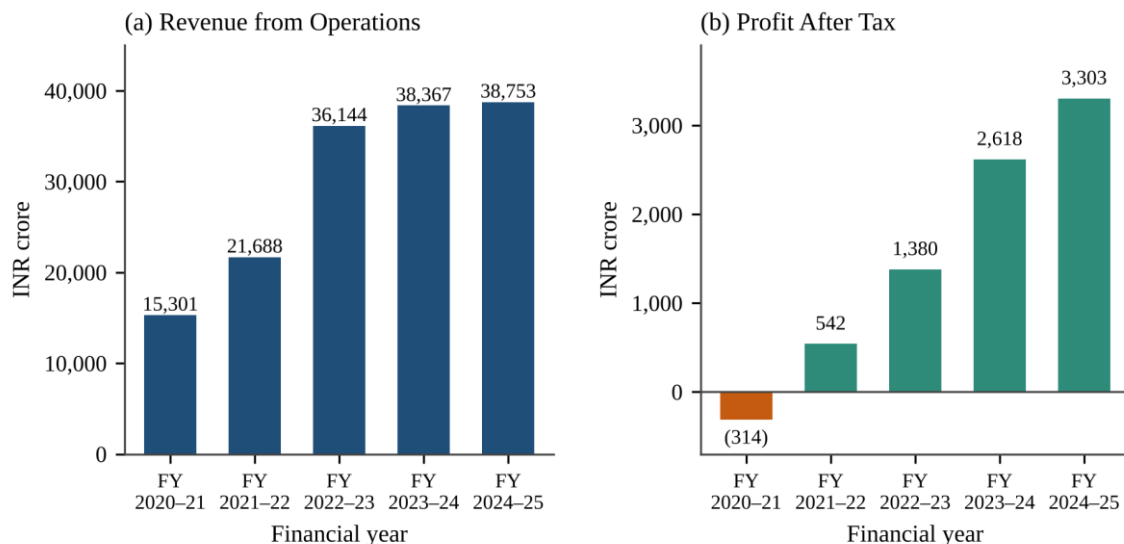


Figure 1. Revenue from Operations and Profit After Tax, FY 2020–21 to FY 2024–25 (INR crore)

Source: Ashok Leyland Limited Annual Reports, FY 2020–21 to FY 2024–25; plotted from Table 1. Figures in brackets are losses.

8.2 Debt and Equity Structure

Table 2. Capital Structure Analysis (₹ crore)

Financial Year	Equity Capital	Debt Capital	Total Capital	Debt/Equity
FY 2020–21	6,977.20	3,758.81	10,736.01	0.54
FY 2021–22	7,336.90	3,553.88	10,890.78	0.48
FY 2022–23	8,425.80	3,224.83	11,650.63	0.38
FY 2023–24	8,810.37	2,299.40	11,109.77	0.26
FY 2024–25	11,518.79	1,481.72	13,000.51	0.13

Source: Ashok Leyland Limited Annual Reports, FY 2020–21 to FY 2024–25; author's calculations. Total Capital = Equity Capital + Debt Capital; Debt/Equity = Debt Capital ÷ Equity Capital; closing book values at the close of each financial year.

The capital structure changed steadily over the five years. Debt Capital fell in every year, from ₹3,758.81 crore in FY 2020–21 to ₹1,481.72 crore in FY 2024–25, a reduction of about 61 per cent. The reduction was gradual in the first three years and larger in the last two, when debt fell by ₹925.43 crore in FY 2023–24 and by ₹817.68 crore in FY 2024–25. Equity Capital rose in every year, from ₹6,977.20 crore to ₹11,518.79 crore (about 65 per cent), with the largest single-year increase of ₹2,708.42 crore in FY 2024–25.

As a result, the Debt/Equity ratio declined each year: 0.54, 0.48, 0.38, 0.26 and 0.13. Total Capital increased up to FY 2022–23 (₹11,650.63 crore), declined slightly in FY 2023–24 (₹11,109.77 crore) because the fall in debt was larger than the rise in equity, and then increased to ₹13,000.51 crore in FY 2024–25. Overall, the company moved from a financing mix with a visible debt component to one that is mostly equity-financed. This research does not assess the reasons behind the repayment, but the pattern appears alongside the rise in PAT seen in Table 1.

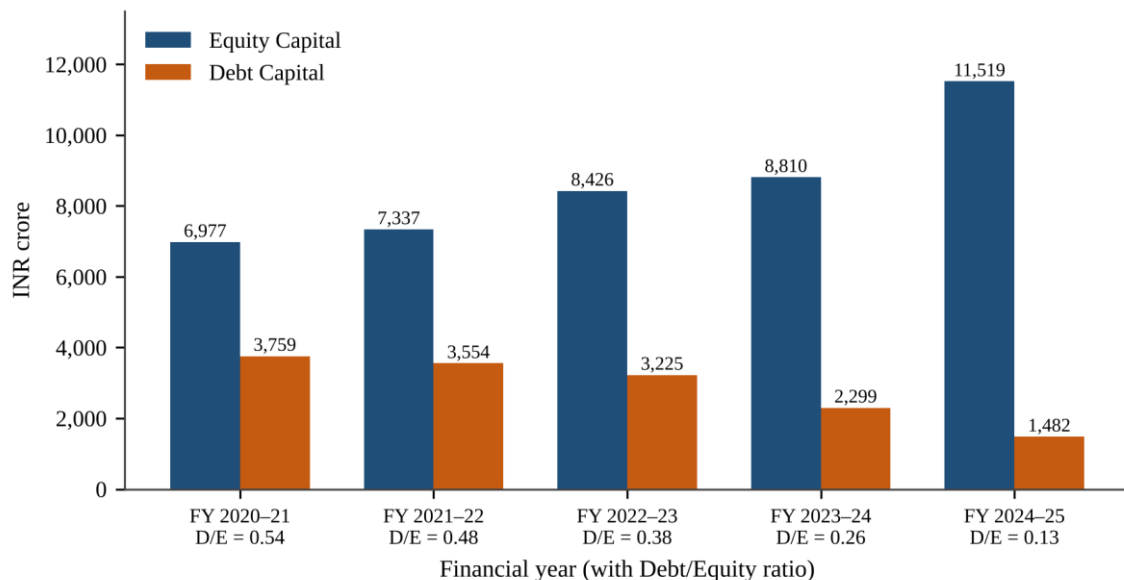


Figure 2. Debt Capital and Equity Capital with Debt/Equity Ratio, FY 2020–21 to FY 2024–25 (INR crore)

Source: Ashok Leyland Limited Annual Reports, FY 2020–21 to FY 2024–25; plotted from Table 2.

8.3 Cost of Debt and After-tax Cost of

Debt Table 3. Cost of Debt

Financial Year	Finance/Interest Cost (₹ crore)	Average Debt (₹ crore)	Pre-tax Kd	Tax Rate	After-tax Kd
FY 2020–21	306.79	3,540.32	8.67%	23.85%	6.60%
FY 2021–22	301.11	3,656.35	8.24%	-2.70%	8.46%
FY 2022–23	289.09	3,389.36	8.53%	34.60%	5.58%
FY 2023–24	249.44	2,762.11	9.03%	30.97%	6.23%
FY 2024–25	216.91	1,890.56	11.47%	24.03%	8.72%

Source: Ashok Leyland Limited Annual Reports, FY 2020–21 to FY 2024–25; author's calculations. Average Debt = (Opening Debt + Closing Debt) ÷ 2 using the Debt Capital in Table 2; Pre-tax Kd = Finance Cost ÷ Average Debt; Tax Rate = (PBT – PAT) ÷ PBT using Table 1; After-tax Kd = Kd(1 – T). For FY 2020–21 the opening debt is the closing debt of FY 2019–20, which lies outside the study period and is not shown in Table 2; the Average Debt of ₹3,540.32 crore corresponds to an opening debt of about ₹3,321.83 crore.

The finance cost declined in every year, from ₹306.79 crore in FY 2020–21 to ₹216.91 crore in FY 2024–25 (about 29 per cent), but average debt declined faster (about 47 per cent). Because of this, the pre-tax cost of debt stayed in a narrow range of 8.24% to 9.03% during the first four years, before it rose sharply to 11.47% in FY 2024–25. In other words, the finance cost did not fall in proportion to the repayment of borrowings, so the cost per rupee of debt outstanding rose in the final year. The finance

cost recorded in the financial statements may contain components other than borrowing interest considered here, and the study does not separate them (see Section 11).

The after-tax cost of debt moved more than the pre-tax cost, because the tax rate differed widely between the years (23.85%, -2.70%, 34.60%, 30.97% and 24.03%). In FY 2021–22 the effective tax rate was negative, i.e. the tax charge was lower than zero even though PBT was positive, so the after-tax Kd (8.46%) was higher than the pre-tax Kd (8.24%) and the interest tax shield is not seen in that year. In FY 2022–23 the highest tax rate (34.60%) gave the lowest after-tax Kd of the period (5.58%). The after-tax Kd was then 6.23% in FY 2023–24 and 8.72% in FY 2024–25, the highest value in the study period, as the higher pre-tax Kd more than offset the lower tax rate.

8.4 CAPM Cost of Equity

Table 4. CAPM Equity Cost

Financial Year	Risk-free Rate	Beta	Expected Market Return	Premium for Market Risk	Ke
FY 2020–21	6.18%	1.55	12.00%	5.82%	15.20%
FY 2021–22	6.84%	1.55	12.00%	5.16%	14.84%
FY 2022–23	7.32%	1.55	12.00%	4.68%	14.57%
FY 2023–24	7.05%	1.55	12.00%	4.95%	14.72%
FY 2024–25	6.58%	1.55	12.00%	5.42%	14.98%

Source: Risk-free rate – yield on the 10-year Government of India benchmark security at the close of each financial year; beta – equity beta of 1.55, kept unchanged throughout the five year period; expected market return – 12.00%, a study assumption kept unchanged throughout the five year period; Ke – author’s calculations using $Ke = R_f + \beta(R_m - R_f)$. Premium for Market Risk = $R_m - R_f$.

The cost of equity determined by the CAPM was found to be between 14.57% and 15.20% for the five years, which is a difference of only 0.63 percentage points. The range is narrow because the beta is the same (1.55) in each of the five years, and the expected market return is the same (12.00%) for each of the five years, so the only variable that changes Ke is the risk-free rate. The risk-free rate rose from 6.18% in FY 2020–21 to 7.32% in FY 2022–23 and then fell to 7.05% and 6.58% in the next two years. As R_f increases, the premium for market risk decreases (from 5.82% to 4.68% by FY 2022–23), and when the beta is higher than one, this decrease is more than the increase in R_f . Ke was also opposite to R_f : it dropped when R_f rose and it rose again when R_f dropped. It fell from 15.20% to 14.57% when R_f had risen, and rose from 14.57% to 14.72% and from 14.72% to 14.98% when R_f had declined. A one percentage point increase in R_f causes a 0.55 percentage point decrease in Ke ($1 - \beta = -0.55$).

The beta of 1.55 exceeds one, indicating that the company’s shares are considered more risky than the market and thus have a risk premium on top of the market premium. The Ke is higher than both the pre-tax and the after-tax cost of debt in each year, as equity investors bear the residual risk of the firm while debt holders are entitled to receive their payments before equity investors. The difference between the cost of equity and the cost of debt is the lowest in the two years when the after-tax cost of debt is the highest, FY 2021–22 and FY 2024–25.

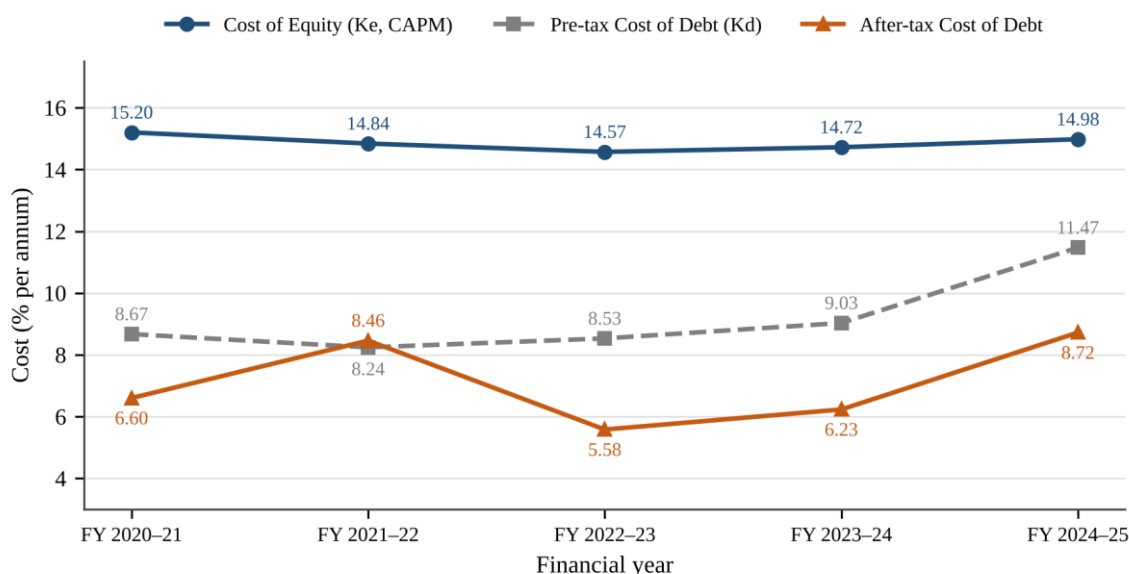


Figure 3. Cost of Equity (CAPM) and Cost of Debt (Pre-tax and After-tax), FY 2020–21 to FY 2024–25 (% per annum)

Source: Ashok Leyland Limited Annual Reports, FY 2020–21 to FY 2024–25; CAPM inputs as adopted in the study; plotted from Tables 3 and 4.

8.5 Capital Structure Weights and WACC

Table 5. WACC

Financial Year	Equity Weight	Debt Weight	Ke	After-tax Kd	WACC
FY 2020–21	64.99%	35.01%	15.20%	6.60%	12.19%
FY 2021–22	67.37%	32.63%	14.84%	8.46%	12.76%
FY 2022–23	72.32%	27.68%	14.57%	5.58%	12.08%
FY 2023–24	79.30%	20.70%	14.72%	6.23%	12.97%
FY 2024–25	88.60%	11.40%	14.98%	8.72%	14.27%

Source: Author's calculations from Tables 2, 3 and 4. Equity Weight = $E \div (D + E)$; Debt Weight = $D \div (D + E)$, using closing book values from Table 2; WACC = $W_e \times K_e + W_d \times K_d(1 - T)$; no preference capital is included.

The equity weight rose in each year, from 64.99% in FY 2020–21 to 88.60% in FY 2024–25 (an increase of 23.61 percentage points), and the debt weight fell correspondingly from 35.01% to 11.40%. This is the same movement as the fall in the Debt/Equity ratio in Table 2, now expressed as proportions of Total Capital. By FY 2024–25 about nine-tenths of the capital of the company is equity on the book-value basis used in this study.

The WACC did not move in one direction. It was 12.19% in FY 2020–21 and rose to 12.76% in FY 2021–22, even though K_e fell and the equity weight rose slightly, because the after-tax cost of debt increased from 6.60% to 8.46% in that year. The WACC fell to 12.08% in FY 2022–23, the lowest in the period, as both K_e (14.57%) and the after-tax cost of debt (5.58%) were at their lowest levels. It then increased to 12.97% in FY 2023–24 and to 14.27% in FY 2024–25. The rise in the last two years has two causes: the larger equity weight, which gives greater importance to the more expensive source of capital, and the higher after-tax cost of debt in FY 2024–25 (8.72%). Between FY 2020–21 and FY 2024–25 the WACC rose by 2.08 percentage points.

Thus, in this study, the reduction of debt from 35.01% to 11.40% of the capital was accompanied by a higher WACC and not a lower one. Since the equity cost is more than the debt cost in each year,

replacing debt with equity raises the average cost of the capital, other things being equal. A lower level of debt also means lower financial risk, which is not reflected in the CAPM cost of equity here because the same beta has been used in all five years (see Section 11).

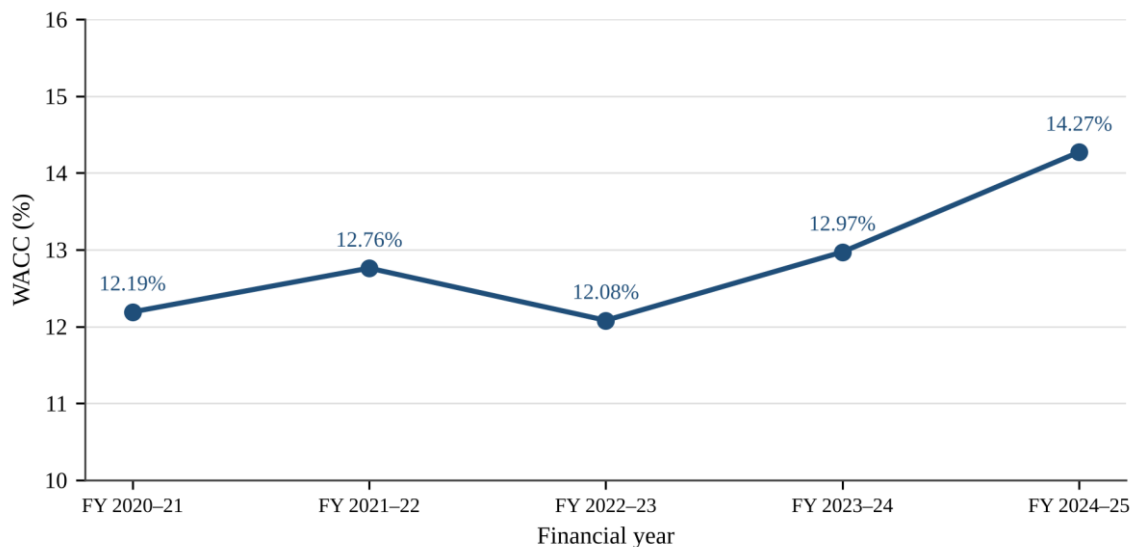


Figure 4. WACC Trend for Ashok Leyland across FY 2020–21 to FY 2024–25 (%)

Source: Ashok Leyland Limited Annual Reports, FY 2020–21 to FY 2024–25; author's calculations; plotted from Table 5.

8.6 Comparative Study of Ashok Leyland and Tata Motors

The findings are discussed in context and the financing structure of Ashok Leyland is compared with Tata Motors Limited, the major rival in the commercial vehicle industry for the same 5 years (FY 2020–21 to FY 2024–25). Both companies are taken as stand alone entities. The Ashok Leyland figures are from Tables 1 to 5 and the Tata Motors figures are from its standalone audited financial statements. We adopt the same definitions as in Section 6.4: Debt Capital for Tata Motors is the sum of non-current and current borrowings shown in its balance sheet (excluding lease liabilities), Equity Capital is its total equity, and the pre-tax cost of debt is finance cost divided by average debt. The comparison is limited to the debt/equity ratio, the debt weight and the cost of debt before taxes. The cost of equity and the WACC are not calculated for Tata Motors, as this study does not have a supported beta for the company and a CAPM estimate based on an assumed beta would not be reliable. One thing to keep in mind when reading the comparison. Tata Motors' standalone statements, which include its passenger vehicle business till 31 December 2021, were subsequently transferred to a subsidiary, post transfer the standalone company operates only in the commercial vehicle segment. Hence, the figures for the first year and to an extent FY 2021-22 are not fully like-for-like with Ashok Leyland.

Table 6. Tata Motors Limited – Standalone Capital Structure and Finance Cost (₹ crore)

Financial Year	Equity Capital	Debt Capital	Total Capital	Finance Cost	Average Debt
FY 2020–21	19,055.97	21,748.72	40,804.69	2,110.83	n.a.
FY 2021–22	19,944.15	23,232.65	43,176.80	2,121.73	22,490.69
FY 2022–23	22,469.85	18,872.44	41,342.29	2,047.51	21,052.55
FY 2023–24	30,143.00	13,771.00	43,914.00	1,706.00	16,321.72
FY 2024–25	33,442.00	8,608.00	42,050.00	1,122.00	11,189.50

Source: Tata Motors Limited standalone audited financial statements – results for the year ended 31 March 2022 (which also give the figures for 31 March 2021 and FY 2020–21), Integrated Report 2022–23 (FY 2022–23) and standalone results for the year ended 31 March 2025 (which also give the figures for 31 March 2024 and FY 2023–24); author's calculations. Debt Capital = non-current borrowings + current borrowings; Equity Capital = total equity; Average Debt = (Opening Debt + Closing Debt) ÷ 2. The figures for FY 2023–24 and FY 2024–25 are reported by the company in whole ₹ crore. Average Debt for FY 2020–21 is not shown, because the statements of FY 2020–21 presented part of the current borrowings under other current financial liabilities, so the closing borrowings of 31 March 2020 are not on the same basis as the later years.

Table 7. Comparison of Ashok Leyland and Tata Motors

Financial Year	Debt/Equity Ashok Leyland	Debt/Equity Tata Motors	Debt Weight Ashok Leyland	Debt Weight Tata Motors	Pre-tax Kd Ashok Leyland	Pre-tax Kd Tata Motors
FY 2020–21	0.54	1.14	35.01%	53.30%	8.67%	n.a.
FY 2021–22	0.48	1.16	32.63%	53.81%	8.24%	9.43%
FY 2022–23	0.38	0.84	27.68%	45.65%	8.53%	9.73%
FY 2023–24	0.26	0.46	20.70%	31.36%	9.03%	10.45%
FY 2024–25	0.13	0.26	11.40%	20.47%	11.47%	10.03%

Source: Ashok Leyland – Tables 2, 3 and 5 of this paper; Tata Motors – Table 6; author's calculations. All figures are on a standalone basis. Debt/Equity = Debt Capital ÷ Equity Capital; Debt Weight = Debt Capital ÷ (Debt Capital + Equity Capital), both at book value at the end of the year; Pre-tax Kd = Finance Cost ÷ Average Debt. The pre-tax Kd of Tata Motors for FY 2020–21 is not available (n.a.) for the reason given under Table 6.

In every year of the period Tata Motors was much more debt dependent than Ashok Leyland. In FY 2020–21 and FY 2021–22 its Debt/Equity ratio was higher than one (1.14 and 1.16) which means that its borrowings were higher than its equity and debt provided more than half of its capital (53.30% and 53.81%). For Ashok Leyland the ratio in the same years was 0.54 and 0.48, and debt provided about one-third of the capital. So, even at the beginning of the period Ashok Leyland was the less leveraged of the two companies.

The capital structure of both organizations was trending in the same way but at varying speeds. The Debt/Equity ratio of Ashok Leyland has decreased every year post FY 2020–21. Tata Motors had the highest debt in FY 2021–22 (₹23,232.65 crore), which subsequently reduced to ₹8,608.00 crore in FY 2024–25 – around a reduction of 63 per cent – along with an increase in its equity value of around 68 per cent, resulting in its debt/equity ratio falling from 1.16 to 0.26. By FY 2024–25, the difference between the two organizations has narrowed considerably (0.26 against 0.13 for Ashok Leyland, and a debt weight of 20.47% against 11.40%) although Ashok Leyland maintained a lower debt dependence ratio in all five years.

The cost of debt before tax for Tata Motors has been 9.43% in FY 2021–22 and increased to 10.45% in FY 2023–24 and reduced to 10.03% in FY 2024–25. For the period between FY 2021–22 and FY 2023–24, the cost of debt of Ashok Leyland has been relatively lower (8.24% to 9.03%), while in FY 2024–25 it has been relatively higher (11.47%) than the cost of debt of Tata Motors. In both the companies, finance cost has reduced with reduction in debt, but the cost per rupee of debt for Ashok Leyland has increased more than that of Tata Motors. Since the cost of debt of both the companies is lower than the cost of equity, due to reduced debt weights, higher proportion of capital of both the companies is being financed by relatively expensive sources.

In the case of Ashok Leyland, the comparison suggests that the reduction in the level of debt dependence was not unique to Ashok Leyland since the rival firm also reduced its level of debt to a very low level during the period under consideration. However, the fact remains that Ashok Leyland was always the conservative company, and the debt burden of Ashok Leyland in the financial year 2024–25 (11.40%) was quite low. This is the reason why WACC for Ashok Leyland for the financial

year 2024–25 was mainly driven by the cost of equity and not the cost of debt. The findings have been based on just one rival firm.

9. FINDINGS

The standalone financial results indicate that the operating revenue of the company increased from ₹38,367.03 crore in FY 2023–24 to ₹38,752.74 crore during FY 2024–25, while the PAT improved by 80 percent from ₹2,617.87 crore in FY 2023–24 to ₹3,303.29 crore in FY 2024–25. So the percentage rise in the profit after tax is greater than the percentage rise in revenue.

From the 5 year data, the following can be observed:

1. Revenue from operations was increasing throughout all five years, from ₹15,301.45 crore in FY 2020–21 to ₹38,752.74 crore in FY 2024–25, but the growth rate slowed after FY 2022–23. The company moved from a loss in FY 2020–21 (PAT of ₹(313.68) crore) to a PAT of ₹3,303.29 crore in FY 2024–25.
2. Debt Capital fell every year (₹3,758.81 crore to ₹1,481.72 crore) and Equity Capital rose every year (₹6,977.20 crore to ₹11,518.79 crore). Debt/Equity ratio decreased from 0.54 to 0.13.
3. The pre-tax cost of debt was between 8.24% and 9.03% from FY 2020–21 to FY 2023–24 and rose to 11.47% in FY 2024–25. Changes in the effective tax rate, with a negative figure in FY 2021–22, drove the after-tax cost of debt between 5.58% and 8.72%.
4. The CAPM cost of equity remained fixed at 14.57% to 15.20% as the beta of the company and the market return was unaltered and only risk-free rate changed. In each year the equity cost exceeded the debt cost.
5. The equity weight rose from 64.99% to 88.60% and the debt weight fell from 35.01% to 11.40%.
6. The WACC was 12.19%, 12.76%, 12.08%, 12.97% and 14.27% in the five years. It was lowest in FY 2022–23 and highest in FY 2024–25. WACC has increased over the study period because of the increase in the proportion of equity in the capital structure.

From the financing structure of the research it is clear that the WACC should not be considered as a percentage by itself, but in terms of the company's financing structure. The more of the financing cost that can be saved, the more cost-effective the financing is when using debt financing, because it is not so costly if a tax shield is available. Raising financial leverage also involves an increased financial risk. The tax shield was not uniform in this study, FY 2021–22 recorded a negative effective tax rate and there is no tax shield on interest.

The cost of debt, tax, beta and market return for input is given according to Table 3 & 4 and the debt and equity book values are shown as per Table 2. Therefore, these have not therefore been estimated separately within the study to reported inputs.

10. CONCLUSION

Cost of capital is an important tool to evaluate the returns expected by the capital provider and to make the decisions regarding finance. The financing mix may be relevant for the risk, investment capacity and value of a business in a capital-intensive business like commercial vehicles.

The study took place over a period of five years of Ashok Leyland Limited from FY 2020-21 to FY 2024-25. The study combines information from the annual reports with a number of standard measures, such as the cost of debt, the CAPM-based cost of equity and the WACC, for a systematic study of the company's financing strategy.

The standalone PAT rose from ₹2,617.87 crore in FY 2023-24 to ₹3,303.29 crore in FY 2024-25 and the company went from loss to a significant profit in five years. Among the other measures, the company further reduced its debt from ₹3,758.81 crore to ₹1,481.72 crore and enhanced its equity in the process, leading to a decrease in Debt/Equity ratio from 0.54 to 0.13 and an increase in equity weight from 64.99% to 88.60%. With the cost of equity (14.57% to 15.20%) higher than the after-tax cost of debt (5.58% to 8.72%) in every year, the WACC increased from 12.19% in FY 2020-21 to 14.27% in FY 2024-25. However, an optimum financing mix is not necessarily the lowest debt financing mix. Finally, the relative cost and weight of debt and equity and the WACC should be taken into account.

Therefore, the study emphasises the significance of capital structure and the finance costs in the overall management of corporate finance. The comparative analysis with the Tata Motors shows that both companies has reduced their dependency on debt during the study period although Ashok Leyland has maintained the low debt burden throughout the all five years.

11. LIMITATIONS

The study has a number of shortcomings. First, the analysis considers the financing structure of Ashok Leyland only for five years and might not show the complete long-term changes in the financing structure. Second, the study depends heavily on secondary sources, with company reports being utilised to a high degree, as are market sources. Third, the CAPM estimates assume and depend on market inputs such as beta, the expected market return and the risk-free rate. The estimated cost of equity may change as a result of changes in these inputs. In this study the same beta and expected market return remain unchanged across the five years, so the difference in the cost of equity comes only from the risk-free rate, and the beta is not adjusted for the fall in the Debt/Equity ratio during the period.

This research mainly focuses on Ashok Leyland with Tata Motors as a single rival comparison. Therefore, findings should not be generalised to the entire commercial vehicle industry on the basis of one competitor comparison.

Finally, the exact definition of debt and equity when calculating the WACC may affect the outcome. This study uses year-end book-value weights for all five years, and market-value weights may give different results. The cost of debt is based on the reported finance cost, which may contain components beyond interest on borrowings, and the tax rate is the effective tax rate of each year, which differs from the statutory rate and was negative in FY 2021-22.

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