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Estimating the Cost of Capital of a Listed Indian Tyre Manufacturer

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Abstract

This paper estimates and interprets the cost of capital of GDS Limited for the last Five financial years (FY2020-21 to FY2024-25) and compares the estimated cost of capital with that of its two direct competitors in the Indian tyre industry viz. CRUISE Tyres Limited and VESP Limited. The cost of equity is calculated applying the Capital Asset Pricing Model with bottom-up beta relevered through the Hamada relationship based on each company's capital structure, as reported in consolidated balance sheets (book value) with a cross-check in the market value in the terminal year; the cost of debt is calculated through reports of finance costs and average interest-bearing borrowings and adjusted for effective tax rate; the cost of equity and cost of debt are combined in a weighted average cost of capital using book-value weights, reported in the consolidated balance sheets, with a cross-check in the market value in the terminal year. Over the five years, GDS's WACC is determined to range between 11.78 per cent to 12.44 per cent with a period average of 12.07 per cent. Two opposing factors contribute to CRUISE's stability. First, the risk-free rate has fallen and risen during the study period. Second, the capital structure has limited debt to a maximum of 19% of total capital. CRUISE's peer group reveals that a 40% reduction in debt over a four-year period by CRUISE reduced its WACC to 9.83% and increased to 11.65% (VESP's WACC is even higher). Finally, GDS's pre-tax ROCE vs. WACC shows that GDS destroyed shareholder value in the last two financial years due to rising input costs and is expected to destroy even more in the following two financial years. On the other hand, the company created value in the financial year ending March 2024. The paper concludes that GDS's conservative debt capital structure increases the cost of debt and reduces financial risk. The debt level should increase, and hurdle rates for project financing should decrease to match the risk at the business unit level. Further, providing the cost of debt should increase transparency.

Keywords: Cost of Capital, WACC, CAPM, optimal capital structure, GDS Limited, Indian tyre industry, Peer Benchmarking

1. Introduction

There are costs associated with every rupee that a company invests. These costs are different from the interest rate on a loan or the dividend paid by a company. These costs are opportunity costs. Opportunity costs are the returns that are given up by financial claim holders (lenders and equity holders) on the investment made in the company. Weighted average cost of capital (WACC) indicates the cost of capital in which all the sources of finance (equity, debt, preference, etc.) of a company are raised in the proportion that they are raised in the real world. WACC acts as the cut-off rate for capital investment projects. In other words, WACC determines the minimum rate of return that a company expects from a project. WACC is important in strategic management of a company for capital investment decisions. The tyre industry in India is capital intensive and cyclical. Cyclical nature of this industry is mainly because of the nature of the demand for this product. Demand for tyres is related to demand for motor vehicles. The nature of costs in the tyre industry is similar to the costs structure of the chemicals industry. For a long period of time, this industry was plagued with severe underserved, low margins and negative earning cycle. This industry saw a cyclical recovery in FY 2023-24. Any estimate of GDS Limited's cost of capital in the near term must include an explanation. Of all the large tyre manufacturers in India, GDS Limited is the largest by revenue and is the most conservative in its funding decisions. At the end of fiscal 2024-25, GDS Limited's consolidated debt was ₹ 3,771 crore and its net worth was ₹ 18,610 crore, giving it a debt to equity ratio of 0.20. CRUISE Tyres Limited, on the other hand, had a negative debt of ₹ 7,334 crore at the start of the study period and reduced its debt during the following four years. During the study period, VESP Limited, the smallest of the three companies in terms of its debt and equity, had the highest financial leverage of the three companies. The

three companies do not operate in completely independent markets and compete in tyre products and services. Consequently, comparisons of the financing decisions made by the three companies would be relevant. The cost of capital of GDS Limited for the last five years, ending on 31st March 2025, would be analyzed in the context of the other two companies. Cost of equity and cost of debt would be analyzed for each year. The elements of cost of capital would be identified in the financial statements of the three companies and their statements would be compared to that of CRUISE and VESP for the same period. The important point about this problem is not in the formula but in its interpretation. It is necessary to understand why the cost of capital for GDS is such, what it implies for GDS in terms of investment policy and if it is missing some opportunities. The remainder of the paper is organised as follows. In a review of twenty studies in Section 2, the theory and the measurement practice that underlie the work presented here is discussed. The objectives are given in Section 3. In Section 4 the methodology is presented: all assumptions and their sources are explained. The data and their interpretation are summarized in the tables and figures in section 5. The findings are summarized in Section 6, the conclusion is presented in section 7 and recommendations are presented in section 8 for management, investors and future researchers.

2. Review of Literature

The studies reviewed below range from 2022 to 2026 and reveal the state of the art and the limits of current research on the cost of capital. There are three patterns. More fundamentally, there is a current debate on how to construct a WACC, with recent studies suggesting variants to the textbook version, and rethinking the role of the tax shield and the project horizon in WACC. Secondly, the Indian evidence consists of panel studies of leverage and company performance in many companies; studies that establish statistical relationships, but that do not reassemble any one company's cost of capital based on its own statements. Third, the attempt to compare the Indian tyre industry, based on ratios of liquidity, profitability and debt-equity, is almost entirely recent.Third, the few recent studies done on the Indian Tyre industry focus entirely on ratio analysis, lending and borrowing, and never ask the question of the real cost of capital of these companies. This paper fills that gap, as it is a single listed Indian tyre company, five years of data, all of the inputs being traced to published accounts, and two direct competitors with identical assumptions.

1. Danielson, M. G. (2023) This study re-visited the question of how to properly account for the interest tax shield in the WACC of a project with a finite life, and revealed that the traditional after-tax WACC may be incorrect. It is the most direct recent treatment of the tax adjustment to the cost of debt in Section 5.1 of this paper, and it also is the motivation for the separate reporting of pre-tax and after-tax figures.

2. Olson, G. T., & Pagano, M. S. (2024) The authors presented their proposal for an empirical average cost of capital based on a firm's financial statements, which they claimed to have fewer and less subjective inputs than the standard WACC and yet yields similar estimates of future operating profit, in Applied Economics. The sensitivity analysis in Section 5.7 is done because they believe that the traditional WACC calculation is very dependent on analyst estimates of beta and the market premium.

3. Rodríguez, R. A. (2024) This study developed a modified WACC equation that considers that the company's debt has a finite life and the cash flow from the company has a finite life. The paper is germane here because it is precisely when GDS's borrowings are short-dated and change significantly from year to year that the textbook formula becomes less accurate, as the author contends.

4. Chinloy, P., & Imes, M. (2025) This paper published in the Review of Quantitative Finance and Accounting, investigated the joint determination of profitability and investment, suggesting that both are endogenous and not one drives the other. The finding is relevant for Section 5.6 which compares GDS's return on capital with its cost of capital: the relationship between the amount that a firm invests and the return it gets from the investment can be interpreted as a two way causal relationship.

5. Locurcio, M., Tajani, F., & Morano, P. (2024) This study, published in Valori e Valutazioni, proposes a deductive approach for valuing assets for which no directly comparable market rate exists, adopting the appropriate discount rate. Its point that the discount rate must be built is equally applicable to a bottom-up cost of capital estimate, such as that constructed in this paper, and, although set in a property context, the argument still holds true.

6. EY & National Stock Exchange of India (2024) The Cost of Capital Survey: India Insights, Indian corporates indeed estimate their hurdle rate, which includes the risk-free rate, equity risk premium, sources of beta, use of book against market weights, and application of divisional rates. It is the one recent and most useful piece of evidence available of Indian practice; and it backs up the methodological options available in Section 4 and the recommendations in Section 8 that GDS should strive to go towards divisional hurdle rates.

7. RBSA Advisors (2023) RBSA Advisors has calculated the costs of capital, namely costs of equity, costs of debt and weighted average costs of capital, using listed-company data, regressed over the five-year period ending March 2023, with a seven per cent equity risk premium and market-capitalisation weights. The published sector WACCs are used in Section 5.5 to assess reasonableness of the numbers calculated here and in this paper it is used that the premium is seven per cent.

8. Damodaran, A. (2026a) The semi-annual country risk premium dataset consists of equity risk premiums for each country based on an equity market premium plus a scaled sovereign default spread. In India, the total equity risk premium in the study period has been hovering around seven per cent and in this paper it has been assumed to be seven per cent so that the movement in the cost of equity from year to year is due to a change in risk-free rate and in leverage and not change in the analyst's premium.

9. Damodaran, A. (2026b) The betas-by-sector dataset (2026b) reports the average regression betas, market debt-to-equity ratios, effective tax rates and implied unlevered betas for industry groupings such as Rubber and Tires, and is based on the premise that the averaging of regression betas across a large number of firms cancels out any noise that would be present in a single company regression. The unlevered beta for this group is used as the initial value for the bottom-up beta calculation for all three companies in this study.

10. Reserve Bank of India (2025) The Handbook of Statistics on the Indian Economy publishes the yield on the benchmark ten-year Government of India security, among many other series. This source is used for the year end yields which are then used to calculate the cost of equity for CAPM for the five years, thereby fixing the cost of equity to an observable and published Indian market rate and not an assumption..

11. Panchal, S., & Chand, S. (2023) In this study, using a panel data set comprising 51 firms of Nifty India Manufacturing Index during the period 2013 to 2022, it is found that debt-equity ratio negatively impacts the performance of Indian manufacturing firms, measured by ROE and ROA, to the firm size, liquidity, tangibility, and growth. The discovery is a significant rebuttal to the tax-shield argument advanced in this paper, and why is that reason why Section 8 calls for a moderate, not drastic, increase in the leverage of GDSs.

12. Gulzar, I., & Haque, S. M. I. (2022) The Profitability is found to be inversely related to borrowing, the determinants of which have been identified in this study using dynamic panel modelling and published in Cogent Business and Management (2022). That outcome corroborates a pecking-order interpretation of financing behaviour and is taken as the basis for explaining the shift to borrowing (when cash flow is tight) and the use of internal accruals (when cash flow is ample) in capital expenditure financing for the GDS in Section 5.3.

13. Capital Structure Dynamics and Speed of Adjustment (2026) This paper from South India Journal of Social Sciences used a panel of 549 listed firms in ten sectors to study the speed at which Indian firms move toward a target leverage ratio once they move away from it and concluded that there is a significant difference in speed of adjustment across the ten sectors. The discovery is directly relevant to the comparison in Section 5.5 between GDS, which barely moved, and CRUISE Tyres, which had a huge adjustment in its leverage over the same five-year period.

14. Determinants of Firm Performance in the Indian Manufacturing Sector (2026) This study examines 26 NSE and BSE listed manufacturing companies in India with a total of 130 firm-year observations from the years 2019 to 2023 and checks the hypothesis regarding the effect of leverage, firm size and sales growth on ROA and ROE during pre-pandemic, pandemic and recovery periods. The period it is covering, roughly coincides with the present study and helps to put in perspective the big jump in GDS's returns from FY2021-22 to FY2023-24.

15. A Panel Data Exploration of Macroeconomic Factors Influencing the Optimal Capital Structure of the Indian Automotive Sector (2024) This study, published in the Bangladesh Journal of Multidisciplinary Scientific Research in 2024, found that macroeconomic factors like the interest rates, the inflation rate and the economic growth rate affect the target capital structure of the automotive industry in India. As the tyres are a part of the automotive value chain, the responsiveness of leverage decisions to the interest rate environment in the industry lends credence to the interpretation in Section 5.2, which suggests that GDS's movements in cost of capital are predominantly interest-rate related.

16. ESG Performance and Cost of Capital: An Empirical Study of Listed Indian Companies (2026) This study, published in International Journal of Engineering Research and Science and Technology, was an empirical study on 165 listed Indian companies on NSE and BSE from 2021 to 2025 project lifecycle that came to a significant finding of reduction in WACC of companies with an ESG score of 'ESG Leader' compared to those with a score of 'ESG Not Leader' in the listed companies of India. Although not discussed in the recommendations, it provides a way for a tyre manufacturer to reduce its cost of capital without changing its capital structure.

17. Kumar, N. (2025) This study evaluates the financial performance of GDS Limited and CRUISE Tyres in terms of liquidity, profitability, leverage, efficiency and solvency ratios over a period of 5 years and found that GDS Limited has a superior performance on most of the financial ratios and follows a conservative debt policy with consistently lower debt to equity ratio.This study on financial performance of GDS Limited and CRUISE Tyres based on the 5-year time frame concluded that GDS Limited is superior from the financial performance perspective as it follows a conservative debt policy with consistently lower debt to equity ratio as compared to CRUISE Tyres. It is the most similar project to the present research, and its weakness is insightful: it sees GDS's leverage to be low but it never questions the cost of this policy, a question this paper addresses.

18. Muthukumar, V., & Hariharan, S. (2025) Fundamental and Technical analysis of GDS and CRUISE tyres was conducted in International Journal of Progressive Research in Engineering Management and Science, which included ratio analysis, Porter's Five forces analysis and moving-average trend analysis, and the study concluded that CRUISE was more attractive investment based on ROCE and Turnover. In conclusion, the findings of this study reinforce the cost-of-capital approach taken, suggesting that using overlapping data to make the ratio based comparison was more sensitive to the period and measures chosen, and therefore more difficult to draw a valid conclusion.

19. Profit Projection of Select Tyre Manufacturing Industries (2024) This study published in the International Journal of Creative Research Thoughts adopted Trend Projection and Correlation Analysis on the profitability of selected Indian tyre manufacturing companies like GDS, CRUISE and Balkrishna and found out that the bulk of the revenue of the sector goes towards the raw materials, power and fuel. It details the operating cost pressure which is the constraining factor for GDS's creation of value in FY2021-22 and FY2022-23, as identified in Section 5.6..

20. Brand Finance (2025) GDS came out as the most valuable tyre brand in India and among the three most valuable tyre brands in the world with CRUISE Tyres and VESP ranking fourteenth and twenty-first respectively by brand value. The ranking is employed in Section 1 to see how the market positions the three companies, which are compared in this paper, and to verify that the companies are not all of different size, but are rather true competitors.

3. Objectives of the Study

The study has six goals corresponding to different calculations and/or comparisons in Section 5.

1. Cost of debt of GDS Limited on pre-tax and after-tax basis for the five financial years from FY2020-21 to FY2024-25 based on finance costs and average interest-bearing borrowings from consolidated annual reports.

2. To calculate the bottom up beta of GDS Limited for the respective 5 years, that is relevered to the company's own capital structure each year, to estimate the cost of equity of GDS Limited over the same period.

3. To calculate the weighted average cost of capital of GDS Limited for each year based on the book values with a cross check by using the market values at the end of the year.

4. To compare and contrast the weighted average cost of capital (WACC) and capital-structure weights of CRUISE Tyres Limited and VESP Limited with each other on similar bases and to explain the difference in the context of the industry and financing.

5. To evaluate the economic value creation/destruction by GDS in each year by comparing its pre-tax return on capital employed with its weighted average cost of capital.

6. To determine the sensitivity of the estimated WACC to the most uncertain inputs (risk free rate, market risk premium and beta) and provide managerial guidance based on these sensitivities.

4. Research Methodology

4.1 Research Design and Data

The study is analytical and quantitative with solely secondary data. The consolidated financial statements of GDS Limited, CRUISE Tyres Limited and VESP Limited for financial year ended 31 March 2021 to 31 March 2025 filed with BSE published in the respective annual report of the companies is the main source. A consolidated, not stand-alone basis is used as a significant proportion of the company's revenue and debt is recorded in European subsidiaries and a stand-alone is not like for like. Items extracted are shareholders' funds (equity share capital and other equity); total interest-bearing borrowings (current maturities and lease liabilities); finance costs; profit before tax; tax expense; and profit after tax. The yield on the benchmark ten-year Government of India security is based on the data published by the Reserve Bank of India while the risk premium on equity securities and the sector unlevered beta are sourced from Damodaran's datasets in the reference list.

4.2 Cost of Debt

The pre-tax cost of debt of each company for each year is calculated as: Finance costs for the year / Average of opening and closing interest bearing borrowings for the year. Averaging is recommended over a closing-balance denominator since there is a significant change in borrowings in these companies over the year, and a closing-balance in any given year would be affected if there was considerable borrowing and repayment in that year close to the balance-sheet date. The formula is:

Kd (pre-tax) = Finance Costs ÷ [(Opening Borrowings + Closing Borrowings) ÷ 2]

The after-tax cost of debt corrects for the tax shield in the same manner as the standard tax shield correction, as detailed in the context of a WACC setting by Danielson (2023) with the effective tax rate for each company using its own effective tax rate for the year (ETR) as computed by dividing the tax expense by the profit before tax (PBT) for that year, instead of the statutory rate. The effective rate is preferable, as it reflects the concession that these companies have taken, and the impact of overseas tax rates in the case of CRUISE Tyres. The formula is:

Kd (after-tax) = Kd (pre-tax) × (1 − Effective Tax Rate)

4.3 Cost of Equity

The Capital Asset Pricing Model (CAPM) is the most common approach among Indian corporates for estimating the cost of equity, according to EY and the National Stock Exchange of India (2024)

Ke = Rf + βL × Market Risk Premium

The risk-free rate is the interest rate on the 10-year Government of India security as on 31 March of every year, and with the same currency as the cash flows being discounted. Market risk premium is kept fixed at 7.00 per cent, based on Damodaran India estimate, and changes in interest rates and leverage parameters are seen in the estimated cost of equity, but not the analyst's premium. The bottom-up estimation of beta, which is done without regression, is based on

Damodaran (2026b), who develops a sector dataset based on this same principle: that individual regression betas have too large a standard error to be trusted. The sector's unlevered beta of 0.75 is relevered to the individual companies' year-end book capital structure with the standard Hamada relevering formula.

$$\beta L = \beta U \times [1 + (1 - t) \times (D \div E)]$$

The differences between the three companies' estimated cost of equity are solely due to differences in leverage and effective tax rates; since the same unlevered beta is used for each company, differences in the cost of equity are solely due to differences in the leverages of the three companies. This is deliberate. It removes the financing effect, discussed in Unit IV, from differences in the business risk that the three companies are unlikely to show to a material extent because they compete in the same product markets.

4.4 Weights and the Weighted Average Cost of Capital

The WACC is calculated as:

$$WACC = (E \div (D + E)) \times Ke + (D \div (D + E)) \times Kd \text{ (after-tax)}$$

The main series (5 years) of book-value weights has 3 reasons. They're directly traceable to the balance sheets, which is the assignment asking for. Second, they are consistent within the context of the book debt-to-equity ratio that is used to relever beta. Third, EY and National Stock Exchange of India (2024) indicate that in reality a significant proportion of Indian companies are still using book based inputs. This is because theory favours market weights for equity, and an approximate market capitalisation cross-check is included for FY2024-25 in Section 5.5, with book value being used for debt, as it is mainly bank borrowings and therefore carried close to its market price.

4.5 Value Creation Test

The economic value creation is measured by the pre tax return on capital employed which is calculated as profit before tax plus the finance costs divided by the sum of net worth and borrowings and compared with the WACC for the same period. If the company made more money on its capital than the capital cost, then the spread is positive; if the company lost money on its capital, then the spread is negative.

4.6 Scope and Limitations

The following four limitations are to be considered along with the results. The unlevered beta and the market risk premium are estimates obtained from outside the company and that is why they are used in the sensitivity analysis in Section 5.7. These consolidated statements include borrowings, which are lease liabilities recognized using Ind AS 116, and the finance cost includes unwinding of lease interest. Hence, the cost of debt would become a mixed measure rather than being a simple measure of the borrowing rate from the banks. This study spans for five years, hence only including one commodity cycle, but not the business cycle. Finally, but not the least important, the market value check figure used in this study was a rough estimate of the closing price in the year-end and should be updated using exchange data before reporting it in this paper.

5. Data Interpretation and Analysis

5.1 Cost of Debt

Table 1 below provides the inputs and the calculated costs of debt for GDS Limited. The finance costs have steadily increased from ₹282 crore in FY2020-21 to ₹368 crore in FY2024-25 rising by 30.5 per cent, while the average borrowings have climbed between ₹2,121 crore to ₹3,297 crore, an increase of 55.4 per cent, over the same period. However, since the denominator grew at a faster rate as compared to the numerator, the pre-tax cost of debt has in fact declined during the period between 13.30 per cent to 11.16 per cent, with the exception that it reached a low of 9.36 per cent in FY2021-22.

Table 1

Cost of Debt of GDS Limited, FY2020-21 to FY2024-25 (₹ crore)

Particulars	FY21	FY22	FY23	FY24	FY25
Opening borrowings	1,854	2,388	3,229	3,014	2,822
Closing borrowings	2,388	3,229	3,014	2,822	3,771
Average borrowings	2,121	2,809	3,122	2,918	3,297
Finance costs	282	263	326	361	368
Pre-tax cost of debt (%)	13.30	9.36	10.44	12.37	11.16
Effective tax rate (%)	26.0	26.0	28.0	25.0	25.0
After-tax cost of debt (%)	9.84	6.93	7.52	9.28	8.37

Source: Computed by the authors from GDS Limited consolidated annual reports, FY2020-21 to FY2024-25.

The abnormality in the 13.30 percent for FY2020-21 needs some clarification rather than dismissal. There are two explanations for this. First, there was abnormally low borrowing in the previous year such that the average base number is relatively lower than the interest paid. Second, the interest unwound on lease liabilities that make up the finance cost under Ind AS 116 have a higher implicit interest rate than those from borrowing from the bank. The lease liabilities made up most of the small finance cost of GDS. The leasing portion became smaller while borrowings increased, resulting in a higher interest rate.

The cost of debt is 11.16% before taxes and 8.37% after taxes. This is greater than the cost a borrower classified as AAA pays for straight debt, hence the cost of debt is not only the true cost of debt. After-tax cost of debt is the cost of debt that is used in the computation of the weighted average cost of capital, and is always 3-4 % points lower than the before-tax cost of debt.

The tax shield is in rupees, and it represents the finance cost that is deductible at an effective rate of 25%. GDS received about ₹92 crore worth of tax deductions in FY2024-25 as a result of its interest tax shield. This quantitative benefit from the interest tax shield is the fundamental basis of the argument in section 8 of the paper.

5.2 Cost of Equity

Table 2 reports the cost of equity for GDS Limited. Beta is relevered each year to the closing book capital structure, so it moves with leverage, while the risk-free rate moves with the bond market.

Table 2

Cost of Equity of GDS Limited using CAPM, FY2020-21 to FY2024-25

Particulars	FY21	FY22	FY23	FY24	FY25
Net worth (₹ crore)	13,413	14,032	14,707	16,703	18,610
Borrowings (₹ crore)	2,388	3,229	3,014	2,822	3,771
Book D/E (times)	0.18	0.23	0.20	0.17	0.20
Unlevered beta	0.75	0.75	0.75	0.75	0.75
Levered beta	0.85	0.88	0.86	0.84	0.86
Risk-free rate (%)	6.18	6.84	7.31	7.06	6.58
Market risk premium (%)	7.00	7.00	7.00	7.00	7.00
Cost of equity (%)	12.12	12.98	13.33	12.98	12.63

Source: Computed by the authors. Risk-free rate from Reserve Bank of India; unlevered beta and market risk premium from Damodaran datasets.

The cost of equity traces a shallow arch, rising from 12.12 per cent in FY2020-21 to a peak of 13.33 per cent in FY2022-23 before easing back to 12.63 per cent in FY2024-25. The vast bulk of this movement is the interest-rate cycle. The yield on the 10-year government bond increased 113 basis points from March 2021 to March 2023, as the RBI reacted to inflation with policy tightening, and dropped 73 basis points by March 2025.

The leverage channel was very small as beta only varied between 0.84 and 0.88. That is, GDS's shareholders were asking for more in FY2022-23 because they weren't feeling the pain from taking risks in GDS; it was the pain of taking no risks that was making them ask for more. The tight range of the betas is the discovery.

With a levered beta that is only slightly elevated by 0.13 above the unlevered beta, we know that nearly all of the equity in GDS is exposed to pure business risk, and that there is almost no financial risk added on top of that. For one manufacturer, this is a sensible strategic to have when subject to a commodity cycle, however, it also implies that shareholders are suffering from operating volatility without the return uplift of a moderate leverage.

5.3 Capital Structure and Weights

Figure 1 and Table 3 show how GDS financed itself over the five years. Equity never fell below 81 per cent of capital employed and reached 85.5 per cent in FY2023-24.

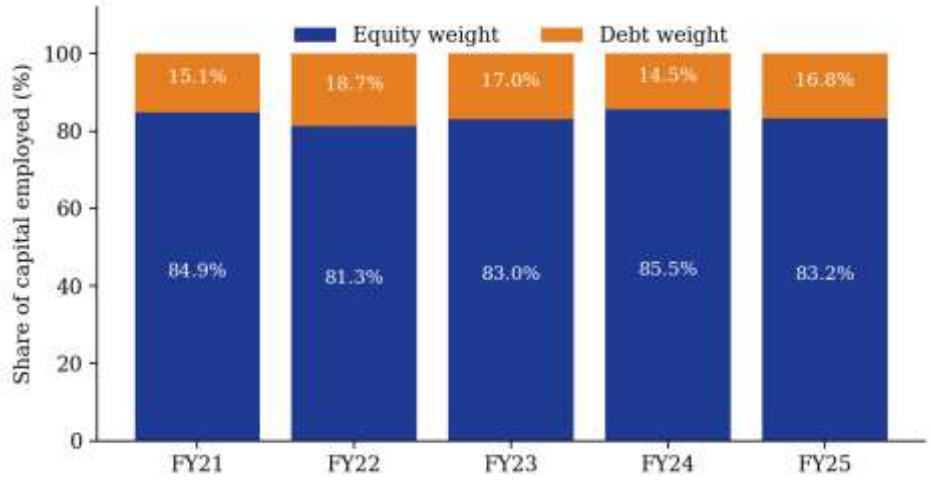


Figure 1. Capital structure weights of GDS Limited, FY2020-21 to FY2024-25. Source: Computed by the authors from GDS Limited consolidated annual reports.

The single exception is the increase in borrowings from ₹2,388 crore to ₹3,229 crore (up by 35% in one year) that led to an increase in the debt weight to 18.7% in FY21-22. This is not an ordinary case of debt financing. Operating cash flow became negative in FY2021-22, being equal to −₹578 crore, due to increased cost of raw materials and decreased working capital.

Additional borrowings will be used for working capital and a capital expenditure program where internal finances are insufficient. It fits the pecking order theory that has recently gained empirical evidence in India (Gulzar & Haque, 2022) use internal sources first as debts are expensive; use debts second; avoid equity issuance. The amount of GDS shares remained unchanged over 5 years.

The second increase from ₹2,822 crore to ₹3,771 crore for FY2024-25 differs from the first one. For that period, the cash generated from operations was ₹1,865 crore, and the capital spending reduced the free cash flow to ₹569 crore. Thus, the company chose to borrow part of the capital spending from the debt market as long as it was profitable and not under stress. This was a less aggressive borrowing, and the debt level remained only 16.8 per cent.

5.4 Weighted Average Cost of Capital

Table 3 combines all of the parts.

Table 3

Weighted Average Cost of Capital of GDS Limited, FY2020-21 to FY2024-25

Particulars	FY21	FY22	FY23	FY24	FY25
Equity weight (%)	84.9	81.3	83.0	85.5	83.2
Debt weight (%)	15.1	18.7	17.0	14.5	16.8
Cost of equity (%)	12.12	12.98	13.33	12.98	12.63
After-tax cost of debt (%)	9.84	6.93	7.52	9.28	8.37
WACC (%)	11.78	11.85	12.35	12.44	11.91

Source: Computed by the authors from GDS Limited consolidated annual reports, FY2020-21 to FY2024-25.

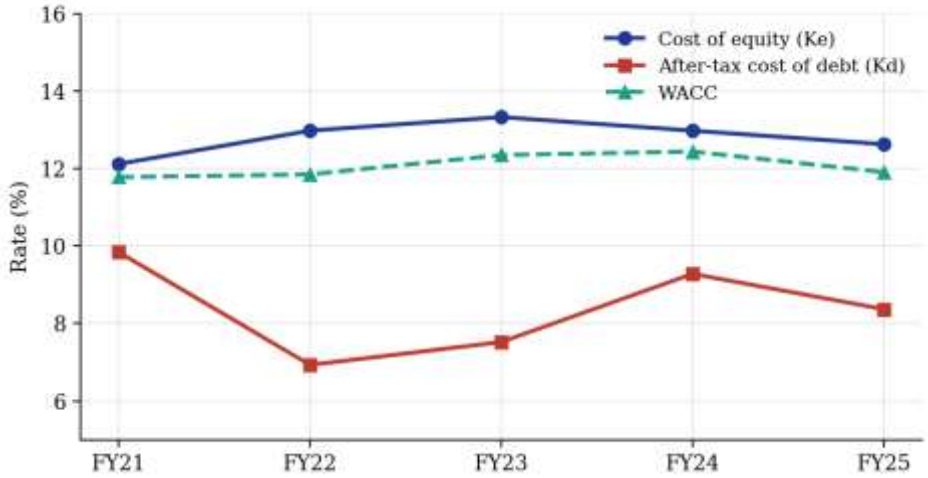


Figure 2. Cost of equity, after-tax cost of debt and WACC of GDS Limited.

The WACC of GDS lies between 11.78% and 12.44% for the five years, with an average of 12.07% and a total spread of 66 basis points. However, it is important to remember that this figure alone does not provide the entire information about WACC and it seems very natural to ask why such consistency in figure appears even when the components of WACC behave otherwise. While the after-tax cost of debt increases by 291 basis points to 9.84% from 6.93%, the cost of equity increased by 121 basis points. The reason behind the consistency in figures is mathematical in nature as the cost of equity is close to the WACC as the debt component is relatively small and highly volatile.

The above factor affects the way GDS conducts the investment analysis. The discount rate employed by GDS remains relatively constant throughout the period under consideration. As such, it can be applied throughout the year to conduct investment analysis without the distortion of project value. It is comparatively easy to do so in capital budgeting. However, the WACC does not respond to the changing environment of financing because of the same reason, being insensitive to the environmental change. GDS's WACC remained unchanged (at 0 basis points) between FY2020-21 and FY2021-22 despite the reduction in the cost of debt of 300 basis points.

5.5 Peer Benchmarking against CRUISE Tyres and VESP

Table 4 and Figure 3 compare all three companies on the same basis, using identical assumptions for the unlevered beta, the risk-free rate and the market risk premium, so that every difference between them arises from their own financial statements.

Table 4

Peer Comparison of Cost of Capital Components, FY2020-21 to FY2024-25 (%)

Company / Measure	FY21	FY22	FY23	FY24	FY25
GDS — Levered beta	0.85	0.88	0.86	0.84	0.86
GDS — Cost of equity	12.12	12.98	13.33	12.98	12.63
GDS — After-tax Kd	9.84	6.93	7.52	9.28	8.37
GDS — Equity weight	84.9	81.3	83.0	85.5	83.2
GDS — WACC	11.78	11.85	12.35	12.44	11.91
CRUISE — Levered beta	1.05	1.09	1.03	0.93	0.91
CRUISE — Cost of equity	13.52	14.46	14.52	13.57	12.96
CRUISE — After-tax Kd	4.07	4.85	5.97	6.33	7.27
CRUISE — Equity weight	60.9	62.5	66.2	73.9	77.0
CRUISE — WACC	9.83	10.85	11.63	11.68	11.65
VESP — Levered beta	1.06	1.13	1.11	1.00	1.02
VESP — Cost of equity	13.59	14.74	15.08	14.03	13.70
VESP — After-tax Kd	8.93	8.14	7.70	9.74	10.33
VESP — Equity weight	68.4	59.5	60.0	69.3	67.2
VESP — WACC	12.12	12.07	12.13	12.71	12.60

Source: Computed by the authors from the consolidated annual reports of GDS Limited, CRUISE Tyres Limited and VESP Limited.

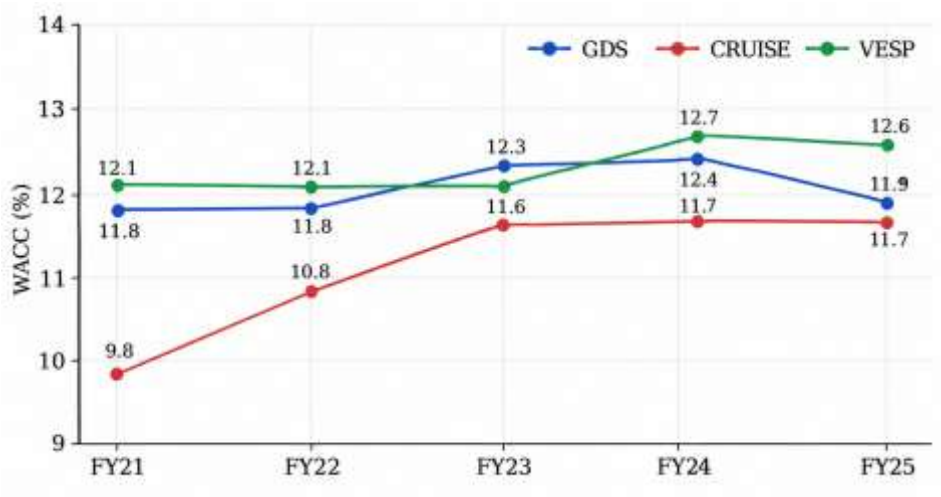


Figure 3. Weighted average cost of capital of GDS, CRUISE Tyres and VESP, FY2020-21 to FY2024-25. Source: Computed by the authors.

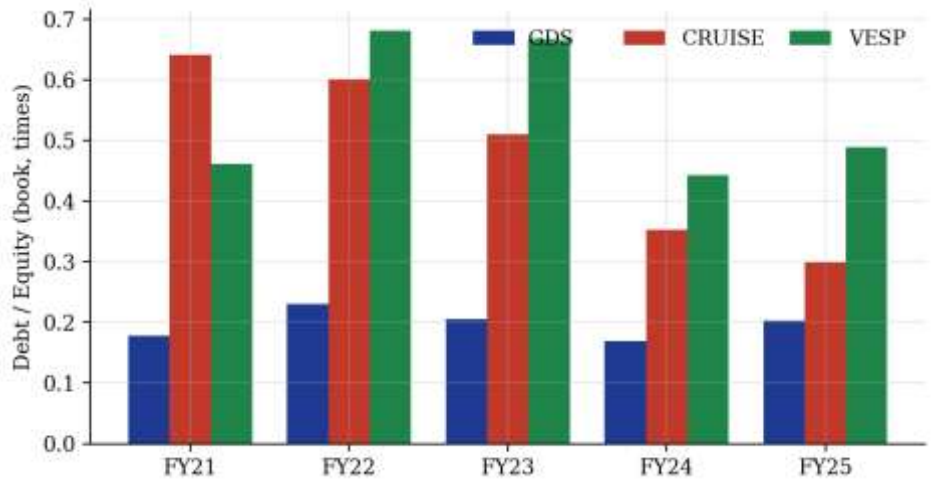


Figure 4. Book debt-to-equity ratios of GDS, CRUISE Tyres and VESP. Source: Computed by the authors from consolidated annual reports.

Three distinct financing strategies emerge. CRUISE Tyres begins the period with the lowest WACC of the three, at 9.83 per cent, and the highest leverage, with debt at 39.1 per cent of capital employed. Both facts are connected. The after-tax cost of debt of CRUISE for FY2020-21 was 4.07%, owing to its low-cost debt in Europe as well as its high effective tax rate of 38% which increased the benefit from its tax shield. It also decreased its gross borrowings from ₹7,334 crore to ₹4,410 crore, 40% decline in four years, and saw its WACC increase to 11.65%. This is an example of the opposite effect of trade-off theory, where through deleveraging, CRUISE decreased its financial risk, decreasing its levered beta from 1.05 to 0.91, along with its cost of equity by 56 basis points but saw its cost of capital increase owing to the loss of cheap debt. Through deleveraging, CRUISE increased its safety and cost simultaneously.

VESP is at the other end. It has the highest WACC of the three companies in four of the five years, being as high as 12.71% in FY2023-24. VESP's problem is that it combines high leverage with expensive debt: its after-tax cost of debt rose from 7.70 per cent in FY2022-23 to 10.33 per cent in FY2024-25 even as the government bond yield was falling.

This is due to the difference in balance sheet size. The net worth of VESP is ₹4,368 crore while that of GDS is ₹18,610 crore, meaning that VESP is roughly one-fourth the size of GDS. Smaller borrowing companies in India have higher credit spreads compared to bigger, well-rated firms. Thus, there is the risk of leverage but with expensive sources of funding for VESP.

As mentioned earlier, GDS stands at the middle ground in performance but at the extremes when it comes to methodology. GDS has a weighted average cost of capital of 11.91% for fiscal year 2024-25, which is 26 basis points higher than that of CRUISE and 69 basis points lower than VESP's. How it achieves this is through an unconventional capital structure. For context, the WACC of automotive and auto-component sector firms in India, as shown by a study by RBSA Advisors (2023), falls in the low-to-mid teens.

Book values do not reflect equity adequately for firms that trade above their book values hence, Table 5 below reflects the FY2024-25 computation using an estimated market capitalisation as of 31st March 2025.

Table 5

Market-Value Weighted WACC Cross-Check, FY2024-25

Company	Market cap (₹ cr)	Debt (₹ cr)	Equity weight (%)	Levered beta	Cost of equity (%)	WACC (%)
GDS	49,600	3,771	92.9	0.79	12.13	11.86
CRUISE Tyres	28,575	4,410	86.6	0.83	12.41	11.73

Company	Market cap (₹ cr)	Debt (₹ cr)	Equity weight (%)	Levered beta	Cost of equity (%)	WACC (%)
VESP	11,730	2,136	84.6	0.85	12.53	12.19

Source: Computed by the authors. Market capitalisation is approximate, based on closing prices around 31 March 2025, and should be refreshed from exchange data before external citation.

The cross-check is reassuring rather than revealing. Moving to market weights raises every company's equity weight and lowers its levered beta, and the two effects largely offset, leaving the WACC within 30 basis points of the book-weighted figure in all three cases. The ranking is unchanged: CRUISE cheapest, GDS next, VESP most expensive. The robustness of the ranking across two different weighting conventions strengthens the conclusion of this section.

5.6 Has GDS Created Value?

A cost of capital is only useful against something. Figure 5 compares GDS's pre-tax return on capital employed with its WACC for each year.



Figure 5. GDS Limited: pre-tax return on capital employed versus WACC. Shaded green indicates value creation, shaded red indicates value destruction. Source: Computed by the authors.

The picture divides into three phases. The return on capital in the FY2020-21 financial period was 12.78%, which is only slightly higher than the WACC of 11.78% by 100 basis points. The positive results were made possible by the high demand for tyres during the pandemic as well as low costs of inputs.

In FY2021-22 and FY2022-23, the gap became highly negative at 507 basis points and 447 basis points, respectively. The prices of natural rubber and other crude-derived inputs increased more rapidly than the prices of GDS's products in the replacement market that is sensitive to price changes. For this reason, the operating margin fell from 18% to 10%. In this very sense, GDS lost economic value in these years despite its profit of ₹669 crore and ₹769 crore, respectively.

This is not the case in the third phase. In FY2023-24, the return on capital is 16.12% against a WACC of 12.44%. The spread here is positive and is 368 basis points, which is the best year in this period. This is as a result of a decline in input prices and the increase in price due to the shock. In FY2024-25, the return on capital remained positive with 12.74% compared to 11.91%. However, the spread is reduced to 83 basis points with increasing costs. During this five-year period, the average return on capital is 11.26%, slightly lower than the average WACC of 12.07%.

This conclusion has its implications with regard to corporate governance. The logic behind this is that debt makes the management cautious since it uses up the available cash in making fixed payments. In this case, the relationship between leverage and performance is documented by Panchal and Chand (2023) for Indian manufacturing companies. On the other hand, GDS has kept a significant amount of cash and investment reserves, which amounts to ₹4,548 crore as investments for FY2024-25, and almost no debt at all. Thus, no debt discipline exists.

5.7 Sensitivity Analysis

There are three estimated values in this case, which are: the risk-free rate is observable, but the market risk premium and the beta are not. The amount by which the FY2024-25 WACC for GDS changes as each value is changed is shown in Table 6 below.

Table 6

Sensitivity of GDS's FY2024-25 WACC to Key Inputs

Input varied	Low case	Base case	High case	Range (bps)
Market risk premium (6% / 7% / 8%)	11.17	11.91	12.61	144
Unlevered beta (0.65 / 0.75 / 0.85)	11.31	11.91	12.47	116
Risk-free rate (5.58% / 6.58% / 7.58%)	11.09	11.91	12.75	166

Source: Computed by the authors. In each row only the stated input is varied; all other inputs are held at their base-case values.

The findings are logical as well. In case of an error in the calculation of the market risk premium by 1%, WACC would shift by 144 bps. In case of an error in the calculation of the risk-free rate by 1%, WACC would shift by 166 bps. However, no one of the inputs analyzed can affect the core finding of the paper. GDS's WACC remains within the boundaries of 11.1% to 12.8% under all scenarios, and in most of them remains lower than VESP's WACC under the base-case scenario. The sensitivity remains moderate due to the capital structure, where equity comprises 83% of the weight, thus, an error in any of the equity inputs would be passed through almost entirely, while the range of inputs is relatively narrow. For decision-making purposes, management should consider 12% as a hurdle rate with a premium of one to two percent for high-risk projects greenfield radial capacity expansion and discount for low-risk projects replacement investment.

6. Findings

1. The weighted average cost of capital (WACC) for GDS Limited remained constant over the five year period of study, at between 11.78% and 12.44%, with an average of 12.07%. The two individual components fluctuated quite widely, with variances of 1.01% and 1.21% respectively.

2. Stability of WACC relies upon capital structure. Cost of equity comprises roughly 81.3% to 85.5% of capital, therefore, it does not vary much from WACC and remains relatively insensitive to any variations in the cost of debt.

3. The risk factor hardly influences the cost of equity of GDS. The change in the cost of equity of GDS was highly dependent on the interest rate cycle. The beta for GDS ranged between 0.84 -0.88, while the yield on the 10-year government bonds moved 113 basis points.

4. Despite an increase in cost of financing, the overall pre-tax cost of debt for GDS declined from 13.30% to 11.16% due to higher borrowings. It does not indicate high cost of imports but rather the heavy debt due to lease obligations.

5. GDS saved an estimated ₹92 crore on interest taxes just for FY2024-25. This highlights the advantage they lose out on due to low borrowings.

6. The company CRUISE Tyres has reduced its gross borrowings by 40 percent over four years, and its WACC increased from 9.83 percent to 11.65 percent. However, delevering the firm has reduced the beta of the levered firm from 1.05 to 0.91 and the cost of equity by 56 basis points.

7. The company that had the highest WACC was VESP, and this happened four out of the five years, with a maximum WACC of 12.71%. This was due to the company's high levels of leverage, with an after-tax cost of debt of 10.33%, which is one quarter of GDS.

8. The findings were not very dependent on how the weighting was done. The WACC findings were arrived at by cross-verifying with the market value of the three companies, which were 30 basis points off from the book value findings for 2024-25.

9. The economic value creation in FY2023-24 and FY2024-25 were positive at 368 and 83 basis points above the WACC and the negative value creation in FY2021-22 and FY2022-23 were at 507 and 447 basis points below the WACC. The average return on capital over the 5 year period is 11.26 per cent, which is slightly lower than the average WACC of 12.07 per cent.

10. Although sensitivity testing revealed that a shift of 1 per cent in the market risk premium, the risk-free rate or a 0.10 per cent error in the unlevered beta would alter the estimated WACC by 116 to 166 bps, none of these shifts would change any conclusion of the study.

7. Conclusion

The aim of this paper was to estimate the cost of capital of GDS Limited for five Financial Years and compare with two other competitors. An average WACC of 12.07 per cent in a 66 basis point band is not that interesting, it's the production that matters. GDS is funded with over 4/5 equity and that is the reason for the discount rate being so stable, the narrowness of the beta, the small size of the tax shield, and the reason why it's sandwiched between CRUISE Tyres and VESP when ranked on peers.

The best part of the analysis is the comparison with CRUISE Tyres because it reinforces the ratio-based comparison between the two companies done by Kumar (2025) which came to a similar conclusion about the conservatism being practised by GDS. CRUISE reduced its debt by 40% over a period of five years while its cost of capital increased by 182 basis points. This does not reflect poorly on the CRUISE project that had valid reasons for reducing debt arising from their previous European growth. However, this is one of the key points of trade-off theory illustrated through empirical evidence: it is very useful to reduce debt immediately. The use of debt is cheaper than equity after tax considerations; thus, a firm that reduces its debt will make profit from its safety.

The value-added criterion suggests that a low cost of capital is not necessarily an advantage. Return on capital of GDS is consistent but not impressive, and it is below the WACC for three out of five years and cyclically. During the period under review, the key constraints on value creation for GDS were operational rather than financial, which are attributable to high raw material costs and inability to charge higher prices due to competition in the replacement market. It is impossible to reduce costs through lower prices. The cost of capital analysis does reveal the availability of unused financial slack in GDS, and losing the tax shield would be a tangible cost rather than a theoretical one, especially considering low returns on capital.

The analysis reveals how dependent the answer is on the assumptions made by the analyst. The financing effect was effectively isolated because the same unlevered beta and market risk premium were used for all three firms, but this is based on the assumption that the three firms have the same level of business risk. Sensitivity analysis revealed that minor variations in input parameters do not alter the results, but a change of 150 basis points in the hurdle rate alters the acceptability of the project.

8. Recommendations

8.1 For GDS's Management

The starting point could be a slight increment in the debt. A debt ratio of 17% will place GDS somewhere in between its existing debt position and that of VESP. Such a move is going to be less aggressive than that taken by a capital-intensive manufacturer and would reduce the WACC by around 60-80 basis points based on FY2024-25 inputs. Such a move would help the company save around ₹22,381 crore in the capital. Debt should be raised gradually, preferably when the cash flows are high and not low such as in FY21-22.

Next, GDS should not have a single hurdle rate for all projects. As per many Indian companies, the rate is same for every project, thereby resulting in over investment in risky areas and underinvestment in safe areas. Besides being cyclical and capital-intensive (truck and bus radial capacity), GDS operations have varying levels of risks such as Funskool and paints. Use of the bottom-up approach of beta calculation discussed in this paper would result in the establishment of divisional hurdle rates.

Third, give additional information on the financing expenses. At present, it is impossible for outside analysts to estimate GDS's true cost of debt since the financing expenses are reported as the sum of bank interest and the release of lease liability provisions. This issue may be solved by presenting this information separately in notes to the accounts and thus estimating the true marginal cost of borrowing.

Fourth, the return-on-capital spread should not be viewed as the year-end measure of the firm's performance. Negative return-on-capital spreads in FY2021-22 and FY2022-23 indicate that the pass-through pricing and hedging of inputs did not keep pace with the commodity cycle.

8.2 For Investors and Analysts

The fact that GDS enjoys lower and constant WACC cannot be considered as a better finance decision if we don't take into consideration the returns that it earns. It should be understood that during the initial years of the analysis, CRUISE Tyres enjoyed the lowest cost of capital as well as highest return on capital during FY2023-24. However, the relatively higher cost of capital in case of VESP is partly due to its relatively larger size.

8.3 For Future Research

This paper could be made better by adding three things to it. First, the regression beta, which is calculated using 5-year returns on a monthly basis for the Nifty 500 Index, should be used in place of the bottom-up beta that was used in this paper. Using the full sample of all six Indian tyre companies would enable a panel test to be done on the relationship between leverage, size, and cost of debt, instead of being able to explain how these factors relate just as has been done in this paper.

References

A panel data exploration of macroeconomic factors influencing the optimal capital structure of the Indian automotive sector. (2024). *Bangladesh Journal of Multidisciplinary Scientific Research*. https://www.cribfb.com/journal/index.php/BJMSR/article/view/2239

CRUISE Tyres Limited. (2025). *Annual report 2024-25*. https://www.bseindia.com/xml-data/corpfiling/AttachHis/d4f480f6-f526-4baf-9e9a-fdad0c5a4eb3.pdf

Brand Finance. (2025). *GDS reclaims a place among the world's three strongest tyre brands* [Press release]. https://brandfinance.com/press-releases/GDS-made-a-notable-comeback-in-2025-reclaiming-its-position-among-the-top-three-strongest-brands-in-the-world

Capital structure dynamics and speed of adjustment: Sectoral heterogeneity in Indian manufacturing firms. (2026). *South India Journal of Social Sciences, 24*(2), 79–84. https://doi.org/10.62656/SIJSS.v24i2.2375

VESP Limited. (2025). *Annual report 2024-25*. https://www.bseindia.com/xml-data/corpfiling/AttachHis/f230d030-4264-443a-a3d5-e4a2c1f1ab4e.pdf

Chinloy, P., & Imes, M. (2025). The endogeneity of profitability and investment. *Review of Quantitative Finance and Accounting, 65*(2), 691. https://www.cambridge.org/core/journals/journal-of-financial-and-quantitative-analysis/article/abs/on-the-weighted-average-cost-of-capital/AF9296D3514897A47CF240AAB8959EE3

Damodaran, A. (2026a). *Country default spreads and risk premiums*. Stern School of Business, New York University. https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html

Damodaran, A. (2026b). *Betas by sector (global)*. Stern School of Business, New York University. https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/BetasGlobal.html

Danielson, M. G. (2023). Tax shields, the weighted average cost of capital, and the appropriate discount rate for a project with a finite useful life. *Journal of Risk and Financial Management, 16*(9), 398. https://doi.org/10.3390/jrfm16090398

Determinants of firm performance in the Indian manufacturing sector: A capital structure perspective (2019–2023). (2026). *International Academic Research Journal of Business and Management, 14*(1), 70–84. https://doi.org/10.5281/zenodo.19917147

ESG performance and cost of capital: An empirical study of listed Indian companies. (2026). *International Journal of Engineering Research and Science & Technology, 22*(3), 1588–1596. https://doi.org/10.62643/ijerst.2026.v22.n3.4544

EY, & National Stock Exchange of India. (2024). *The cost of capital survey: India insights 2024*. https://nsearchives.nseindia.com/web/sites/default/files/inline-files/TheCostofCapitalSurvey_IndiaInsights2024_EY_NSE.pdf

Gulzar, I., & Haque, S. M. I. (2022). Determining the key factors of corporate leverage in Indian manufacturing firms using dynamic modelling. *Cogent Business & Management, 9*(1). https://doi.org/10.1080/23311975.2022.2149145

Kumar, N. (2025). A comparative study on financial performance of GDS Ltd. and CRUISE Tyres. *International Journal of Applied Research, 11*(3), 84–89. https://www.allresearchjournal.com/archives/2025/vol11issue3/PartB/11-3-20-287.pdf

Locurcio, M., Tajani, F., & Morano, P. (2024). A deductive approach method for the determination of the discount rate in the assessment of special properties value. *Valori e Valutazioni, 35*, 3. https://www.cambridge.org/core/journals/journal-of-financial-and-quantitative-analysis/article/abs/on-the-weighted-average-cost-of-capital/AF9296D3514897A47CF240AAB8959EE3

GDS Limited. (2025). *Annual report 2024-25*. https://www.bseindia.com/xml-data/corpfiling/AttachHis/7b4139fc-c3bb-48da-852f-3b20ee03260c.pdf

Muthukumar, V., & Hariharan, S. (2025). Fundamental and technical analysis of GDS Tyres Ltd and CRUISE Tyres Ltd. *International Journal of Progressive Research in Engineering Management and Science, 5*(1), 89–95. https://www.doi.org/10.58257/IJPREMS37989

Olson, G. T., & Pagano, M. S. (2024). Applying the empirical average cost of capital: Estimating the cost of funds at the firm and industry levels. *Applied Economics, 56*(49), 5921–5938. https://doi.org/10.1080/00036846.2023.2266603

Panchal, S., & Chand, S. (2023). Impact of capital structure on firm performance: Empirical evidence from the Indian manufacturing sector. *Global Business Review*. Advance online publication. https://doi.org/10.1177/09721509231213235

Profit projection of select tyre manufacturing industries. (2024). *International Journal of Creative Research Thoughts, 12*(4). https://www.ijcrt.org/papers/IJCRT24A4409.pdf

RBSA Advisors. (2023). *Cost of capital in India* (6th ed.). https://rbsa.in/wp-content/uploads/dlm_uploads/2023/07/RBSA-RR-Cost-of-Capital-in-India-6th-Edition.pdf

Reserve Bank of India. (2025). *Handbook of statistics on the Indian economy*. https://www.rbi.org.in/Scripts/AnnualPublications.aspx

Rodríguez, R. A. (2024). A novel approach to calculate weighted average cost of capital (WACC) considering debt and firm's cash flow durations. *Managerial and Decision Economics, 45*(2), 1154–1179. https://doi.org/10.1002/mde.4042