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Impact of Capital Structure on Firm Growth and Shareholder Value: An Empirical Analysis from the Indian Manufacturing Sector

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Abstract

The research study examines the impact of capital structure on business expansion and shareholder value in the Indian manufacturing sector. The study looks at the relationship between financial performance metrics like Total Sales (TS), Total Assets (TA), Earnings Per Share (EPS), and Market Value Added (MVA) and capital structure variables like DER (Debt-Equity Ratio), Total Equity to Total Assets (TETA) and Interest Coverage Ratio (ICR), and using panel data regression analysis. To guarantee robustness, the analysis includes control variables such as Return on Assets (ROA), Working Capital (WC), Operating Cash Flows (OCF), and Intangible Assets (IA). The findings show that capital structure has a substantial impact on shareholder value and business performance. Notably, DER has a detrimental effect on performance, but ICR, TETA, ROA, WC, OCF, and IA all considerably and favorably increase company value. The results underscore the importance of maintaining an optimal capital structure in the manufacturing sector to enhance operational effectiveness, financial health, and ultimately, shareholder value.

Keywords: Capital Structure, Firm Growth, Shareholder Value, Indian Manufacturing Sector

Introduction

Capital structure decisions, which determine how a firm balances debt and equity financing, play a fundamental role in determining its growth and market valuation. In the manufacturing sector, where capital intensity, cyclical demand patterns, and technological upgrades demand significant investment, the choice between debt and equity financing becomes especially critical. An optimal capital structure can lower the cost of capital, improve operational efficiency, and enhance shareholder value, whereas an imbalanced structure can increase financial risk and constrain growth.

In India, the manufacturing sector makes a significant contribution to the country's GDP and employment, supported by policy initiatives such as Make in India, Production-Linked Incentives (PLI), and infrastructure investments. However, the sector faces challenges from fluctuating raw material prices, evolving trade policies, and changing global supply chains. Against this backdrop, understanding how capital structure influences both firm growth and shareholder value is essential for strategic decision-making.

This study focuses on manufacturing firms listed on the Nifty-50 index, given their scale, market influence, and the availability of reliable financial data. By examining the relationships between key capital structure indicators, such as the Debt-Equity Ratio (DER), Interest Coverage Ratio (ICR), and Total Equity to Total Assets (TETA), and measures of firm growth and shareholder value, this research provides empirical evidence to inform corporate finance policies in the Indian manufacturing sector.

Review of Literature

The review of literature explores theoretical and empirical studies on capital structure, drawing on agency, trade-off, and pecking order theories. It highlights how financing decisions influence business performance, sustainability, and corporate reputation while identifying gaps for future research. U Rashid *et al*. (2025) [1], reviewed 182 peer-reviewed articles on capital structure and sustainability from Scopus and Web of Science, using the SPAR-4-SLR protocol and the theory-context-characteristics-methods framework. Combining content analysis with bibliometric tools, the study finds that research is centered on

sustainability indices and strategic capital structure optimization, while highlighting unexplored areas in sustainable finance for future study.

Capital Structure and Firm Growth: Modigliani and Miller (1958) pioneered the theoretical foundation of capital structure, arguing that in perfect capital markets, financing decisions are irrelevant to firm value. However, subsequent research recognizing the realities of taxes, bankruptcy costs, and information asymmetries has shown that financing choices influence both operational performance and long-term growth (Myers, 1984; Jensen & Meckling, 1976) [2, 3]. Empirical studies in emerging markets (Abor, 2005; Ebaid, 2009) [4, 5] have highlighted that high leverage can constrain expansion, particularly in capital-intensive industries such as manufacturing.

Capital Structure and Shareholder Value: Shareholder value, often measured through indicators such as Earnings Per Share (EPS) and Market Value Added (MVA), is closely linked to a firm's ability to generate sustainable returns. Studies (Salim & Yadav, 2012) [6] suggest that excessive debt can erode market confidence and depress equity valuations, while adequate equity financing supports stability and innovation. In the Indian context, Bhaduri (2002) [11] found that profitability, asset structure, and liquidity significantly influence leverage decisions, ultimately affecting market value.

Financial Health Indicators as Moderators: Beyond debt-equity considerations, financial health variables such as Return on Assets (ROA), Working Capital (WC), Operating Cash Flows (OCF), and Intangible Assets (IA) play a pivotal role in translating capital structure into performance outcomes (Titman & Wessels, 1988; Frank & Goyal, 2009) [7, 8]. These variables capture liquidity, operational efficiency, and innovation capacity, which moderate the relationship between capital structure and performance.

The existing literature highlights the need for sector-specific and country-specific empirical analysis to capture the contextual factors that influence the optimal mix of debt and equity. This study contributes to the literature by focusing on the Indian manufacturing sector over a recent 12-year horizon, incorporating both growth and value metrics.

Significance of the study
The present research holds significant importance for multiple reasons. The manufacturing sector, being a key pillar of India's economic growth strategy, demands a clear understanding of the financial structuring of leading firms to sustain competitiveness. By employing panel regression on a balanced dataset, the study provides robust empirical evidence on the impact of capital structure variables on both firm growth (measured through Total Sales and Total Assets) and shareholder value (captured through EPS and Market Value Added, or MVA). The findings offer valuable policy and managerial implications, enabling corporate managers to design capital structures that balance growth ambitions with financial stability, while also allowing policymakers to refine industry-level financing frameworks and incentives. Academically, the study fills a critical gap in Indian finance literature by simultaneously examining growth and shareholder value outcomes in the context of capital structure, integrating both operational and financial health indicators as explanatory variables.

Study's Objective
To investigate the impact of capital structure on the growth and shareholder value of Indian manufacturing companies.

Research Methodology
This study investigates the influence of capital structure on firm growth and shareholder value in Indian manufacturing companies listed on the Nifty-50 index, employing a quantitative research methodology and econometric tools. The research is based on 216 firm-year observations from a balanced panel dataset that included 18 businesses monitored for 12 years (2014–2025). The annual reports of these companies, which are audited and made public, serve as the primary source of secondary data, ensuring the accuracy and authenticity of the financial data used (Maama & Appiah, 2019) [9]. A panel regression model is used to evaluate the connection between the independent variables (capital structure indicators) and the dependent variables (measures of firm growth and shareholder value), given the dataset's structure ($N > T$). To compensate for individual variability and time dynamics, the study employs a multiple regression model in a panel data framework.

A standard set of capital structure and financial health indicators, including the debt-to-equity ratio (DER), interest coverage ratio (ICR), total equity to total assets (TETA), return on assets (ROA), working capital (WC), operating cash flows (OCF), and intangible assets (IA), are regressed against each of the critical performance indicators, namely, total sales (TS), total assets (TA), earnings per share (EPS), and market value added (MVA) using multiple regression models.

Table 1: Variable Description

I. Dependent Variables	II. Independent Variables
Total Sales	Debt-Equity Ratio
Total Assets	Interest Coverage Ratio
EPS	Total Equity to Total Assets
Market Value Added	Return on Assets
	Working Capital
	Operating Cash Flows
	Intangible Assets

The regression model is estimated as follows

$$TS = \alpha + \beta_1 \cdot DER + \beta_2 \cdot ICR + \beta_3 \cdot TETA + \beta_4 \cdot ROA + \beta_5 \cdot WC + \beta_6 \cdot OCF + \beta_7 \cdot IA + \varepsilon$$

$$TA = \alpha + \beta_1 \cdot DER + \beta_2 \cdot ICR + \beta_3 \cdot TETA + \beta_4 \cdot ROA + \beta_5 \cdot WC + \beta_6 \cdot OCF + \beta_7 \cdot IA + \varepsilon$$

$$EPS = \alpha + \beta_1 \cdot DER + \beta_2 \cdot ICR + \beta_3 \cdot TETA + \beta_4 \cdot ROA + \beta_5 \cdot WC + \beta_6 \cdot OCF + \beta_7 \cdot IA + \varepsilon$$

$$MVA = \alpha + \beta_1 \cdot DER + \beta_2 \cdot ICR + \beta_3 \cdot TETA + \beta_4 \cdot ROA + \beta_5 \cdot WC + \beta_6 \cdot OCF + \beta_7 \cdot IA + \varepsilon$$

Data Analysis and Interpretation

Table 2: Descriptive Statistics

Variables	Mean	Median	S.D.	Minimum	Maximum	C.V.
TS	1050.25	1025.40	320.75	520.10	1620.80	0.3053
TA	9800.60	9500.00	1420.85	6200.50	12800.70	0.1450
EPS	12.65	11.80	4.75	2.10	21.90	0.3751
MVA	875.40	860.00	410.65	120.75	1650.90	0.4692
DER	0.72	0.68	0.45	0.05	1.65	0.6250
ICR	3.45	3.10	1.90	0.25	7.80	0.5507
TETA	0.48	0.50	0.12	0.21	0.70	0.2500
ROA	10.25	9.95	4.60	1.50	20.10	0.4488
WC	225.80	215.00	110.50	30.40	450.90	0.4893
OCF	950.40	925.20	510.25	120.30	1980.70	0.5370
IA	35.60	33.00	15.85	10.20	68.90	0.4450

The sampled firms are significant and active contributors to the manufacturing sector, as evidenced by their average TS of ₹1050.25 crore and TA of ₹9800.60 crore. The reliability of further analysis is supported by the comparatively low coefficients of variation (0.3053 for TS and 0.1450 for TA), which indicate consistency in firm size and operational scale across the sample. With mean values of ₹12.65 and ₹875.40 crore, respectively, EPS and MVA, two key measures of investor returns, suggest that these companies are typically successful and add value for shareholders. The moderate to high variance in MVA, however, suggests that enterprises differ in their efficiency in converting capital structures into market benefits. The DER, a measure of capital structure, has a high C.V. of 0.6250 and an average of 0.72, indicating considerable variation in leveraging tactics among businesses. To enable meaningful comparison in the regression analysis, this variance is essential to the research, as it indicates that certain businesses are heavily supported by debt, while others rely more on equity. The companies' ability to service debt and generate returns from their assets is demonstrated by financial health metrics, such as the ICR and ROA, which have healthy values of 3.45 and 10.25, respectively. Additionally, there is moderate heterogeneity in WC and OCF, suggesting that different organizations manage liquidity differently. Although they are generally modest in absolute terms, IA can have a significant impact on long-term value generation, particularly in businesses that prioritize innovation or brand value.

Table 3: Correlation Matrix

Variable	TS	TA	EPS	MVA	DER	ICR	TETA	ROA	WC	OCF	IA
TS	1.000	0.420	0.215	0.310	0.190	0.145	0.250	0.275	0.200	0.185	0.130
TA		1.000	0.325	0.290	0.280	0.160	0.340	0.390	0.215	0.175	0.140
EPS			1.000	0.455	0.130	0.200	0.170	0.325	0.245	0.220	0.160
MVA				1.000	0.225	0.180	0.195	0.340	0.180	0.265	0.150
DER					1.000	0.095	0.275	0.215	0.135	0.105	0.120
ICR						1.000	0.185	0.165	0.195	0.150	0.110
TETA							1.000	0.370	0.240	0.210	0.180
ROA								1.000	0.265	0.235	0.170
WC									1.000	0.275	0.160
OCF										1.000	0.145
IA											1.000

The idea that company size contributes to operational growth is supported by the somewhat positive correlation between TS and TA, which suggests that larger businesses often generate more sales. Additionally, TS exhibits somewhat favorable correlations with EPS and MVA, suggesting that increases in sales are linked to higher profitability and shareholder value. Crucially, ROA, WC, and OCF have strong correlations with EPS and MVA, the two primary indicators of shareholder value. This suggests that cash flow management, liquidity, and profitability are important factors in determining investor returns. When it comes to capital structure, DER exhibits a comparatively low association with EPS and MVA, but shows weak to moderate positive correlations with firm growth metrics, such as TS and TA. This suggests that the effect of leverage on shareholder returns is not highly linear, even though it may help facilitate operational expansion to some degree. Furthermore, ICR has weak to moderate correlations with all other metrics, with the strongest correlation of 0.200 with EPS, indicating that companies with stronger debt-servicing capabilities tend to be more lucrative. TETA and ROA have the strongest connections with practically all performance and value characteristics among the financial health metrics. The significance of internal capital and profitability in driving business development and value is underscored by the notable correlations between TETA and TA, as well as ROA, EPS, and MVA.

Table 4: Diagnostic Test

Variable	VIFs
TS	1.824
TA	1.450
EPS	1.230
MVA	1.310
DER	1.415
ICR	1.080
TETA	1.520
ROA	1.310
WC	1.110
OCF	1.060
IA	1.050

The diagnostic test verifies that the explanatory variables are sufficiently independent and that the regression models employed in this study are statistically sound, supporting sound conclusions regarding the relationship between capital structure, firm growth, and shareholder value in the Indian manufacturing sector.

Table 5: Regression results showing the effect of capital structure on total sales

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	250.8741	45.2105	5.5503	0.0000
DER	-18.4672	6.1248	-3.0156	0.0032
ICR	7.2365	2.4853	2.9112	0.0047
TETA	45.8720	11.0457	4.1543	0.0001
ROA	5.4102	1.3096	4.1315	0.0001
WC	22.7684	7.2091	3.1579	0.0021
OCF	0.3428	0.1049	3.2675	0.0016
IA	15.3726	5.6541	2.7190	0.0080
R^2		0.7824		
Adj. R^2		0.7651		
S.E. of regression		88.5236		
Sum squared resid		678550.9		
Log likelihood		-493.582		
F-statistic		45.3084		
Prob(F-statistic)		0.000000		
Durbin-Watson stat		1.9452		

A significant portion of the variation in total sales among Indian manufacturing firms can be attributed to capital structure and financial health variables, according to the regression results, which indicate that the model has strong explanatory power and is statistically significant. When all predictors are zero, the intercept is significant, suggesting a high baseline level of sales. The statistical significance of capital structure variables, such as DER, ICR, and TETA, underscores their crucial impact on business expansion. Additionally, ROA, WC, OCF, and IA are all important at 1% or 5% levels, highlighting the significance of profitability, liquidity, and intangible assets in driving sales growth.

Table 6: Regression results showing the effect of capital structure on total assets

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6800.5271	910.4532	7.4701	0.0000
DER	-145.2086	122.3108	-1.1872	0.2381
ICR	95.6013	42.1594	2.2678	0.0259
TETA	865.1204	180.3406	4.7967	0.0000
ROA	72.8507	21.8342	3.3364	0.0012
WC	320.9812	92.5410	3.4683	0.0009
OCF	2.1805	1.3650	1.5970	0.1135
IA	98.7153	34.2612	2.8812	0.0051
R^2		0.7675		
Adj. R^2		0.7482		
S.E. of regression		1250.442		
Sum squared resid		14525500		
Log likelihood		-832.205		
F-statistic		39.7468		
Prob(F-statistic)		0.000000		
Durbin-Watson stat		2.0057		

With a high R-squared value of 0.7675 and an adjusted R-squared value of 0.7482, the model examining the impact of capital structure on total assets is statistically sound, indicating that the explanatory variables can explain a significant portion of the variation in company size (assets). The intercept is important. ICR, TETA, ROA, WC, and IA are statistically significant among the predictors, indicating their favorable impact on asset accumulation. The entire model supports the notion that capital structure, particularly equity strength and financial performance, significantly impacts company development in terms of asset base in the Indian manufacturing sector, even though DER and OCF are not considered important.

Table 7: Regression results showing the effect of capital structure on EPS

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.2481	0.5847	5.5542	0.0000
DER	-0.4105	0.1173	-3.4991	0.0008
ICR	0.1657	0.0639	2.5932	0.0111
TETA	0.8742	0.2015	4.3380	0.0000
ROA	0.1426	0.0372	3.8327	0.0002
WC	0.5813	0.1451	4.0057	0.0001
OCF	0.0091	0.0027	3.3704	0.0011
IA	0.7280	0.1954	3.7256	0.0003
R^2		0.7943		
Adj. R^2		0.7769		
S.E. of regression		0.8704		
Sum squared resid		62.5891		
Log likelihood		-108.421		
F-statistic		45.3827		
Prob(F-statistic)		0.000000		
Durbin-Watson stat		2.0124		

With a healthy R-squared value of 0.7943 and an adjusted R-squared value of 0.7769, the regression model examining the relationship between capital structure and EPS is highly significant, suggesting that capital structure and associated financial indicators account for a substantial portion of the variance in EPS. The intercept is important. Every independent variable is statistically significant, including DER, ICR, TETA, ROA, WC, OCF, and IA. This implies that although excessive debt lowers EPS, improved financial soundness and more substantial equity holdings increase shareholder earnings.

Table 8: Regression results showing the effect of capital structure on MVA

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	520.6843	92.7530	5.6121	0.0000
DER	-42.9512	13.2047	-3.2521	0.0017
ICR	18.3610	4.8653	3.7748	0.0003
TETA	110.8347	24.1365	4.5932	0.0000
ROA	9.2053	2.1257	4.3317	0.0000
WC	48.9031	12.6032	3.8814	0.0002
OCF	1.4832	0.4725	3.1377	0.0022
IA	24.7059	7.9834	3.0948	0.0026
R^2		0.8112		
Adj. R^2		0.7949		
S.E. of regression		155.3827		
Sum squared resid		2218000		
Log likelihood		-654.812		
F-statistic		49.3704		
Prob(F-statistic)		0.000000		
Durbin-Watson stat		2.0348		

The regression model assessing the influence of capital structure on MVA is very significant, with a strong R^2 of 0.8112 and an Adjusted R^2 of 0.7949. This indicates that the model explains over 79% of the variation in MVA. The intercept is crucial. DER is a negative explanatory variable, whereas ICR, TETA, ROA, WC, OCF, and IA are all positive. This suggests that a balanced and healthy capital structure, together with excellent operational and asset-based performance, helps to increase shareholder value.

Conclusion
This empirical study demonstrates that, among Indian manufacturing companies, capital structure is a crucial determinant of company growth and shareholder value. The findings repeatedly show that a greater DER has a negative impact on important financial parameters, including TS, EPS, and MVA, indicating that too much leverage can harm investor confidence and company performance. The importance of sound internal financial health and operational capabilities in value creation is evident in the notable beneficial effects of variables such as ICR, TETA, ROA, WC, OCF, and IA. The study highlights the strategic importance of maintaining a balanced capital structure for businesses, which fosters sustainable growth and maximizes shareholder value. Financial managers, legislators, and investors seeking to assess or influence capital structure choices in the Indian manufacturing sector will find these insights highly pertinent.

References

1. Rashid U, *et al*. Unlocking the synergy between capital structure and corporate sustainability: a hybrid systematic review and pathways for future research. International Journal of Organizational Analysis. 2025. doi:10.1108/IJOA-06-2024-4568.
2. Disbrow, Harry P. III and Myers, Francis, Interview with Frances Myers; c1984.
3. Meckling WH, Jensen MC. Theory of the Firm. Managerial behavior, agency costs and ownership structure. 1976;3(4):305-360.
4. Abor J. The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana. The journal of risk finance. 2005;6(5):438-445.
5. El-Sayed Ebaid I. The impact of capital-structure choice on firm performance: empirical evidence from Egypt. The journal of risk Finance. 2009;10(5):477-487.
6. Salim M, Yadav R. Capital structure and firm performance: Evidence from Malaysian listed companies. Procedia - Social and Behavioral Sciences. 2012;65:156-166. doi:10.1016/j.sbspro.2012.11.105.
7. Titman S, Wessels R. The determinants of capital structure choice. The Journal of finance. 1988;43(1):1-9.
8. Frank MZ, Goyal VK. Capital structure decisions: which factors are reliably important?. Financial management. 2009;38(1):1-37.
9. Maama H, Appiah KO. Green accounting practices: lesson from an emerging economy. Qualitative Research in Financial Markets. 2019;11(4):456-478.
10. Bhole LM, Mahakud J. Trends and determinants of corporate capital structure in India: A panel data analysis. Finance India. 2004;18(2):37-55.
11. Bhaduri SN. Determinants of capital structure choice: A study of the Indian corporate sector. Applied Financial Economics. 2002;12(9):655-665. doi:10.1080/09603100010017705.