An Analytical Study on Capital Structure and Firm Performance: An Empirical Investigation of Indian Listed Companies.

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ABSTRACT

This study examines the connection between financing decisions and performance performance of Indian companies. We prepared and analyzed fourteen years of financial data of non-financial enterprises listed on the NSE and BSE, in total 200 enterprises, between 2010 and 2024. As our sources of empirical data, we focus on capital-structure measures, especially on the debt ratio, debt to equity ratio and long term debt ratio, and as our indicators of performance, we use ROA, ROE, NPM, and the diagnostics of Hausman tests and multicollinearity and heteroscedasticity. The results have shown that high leverage especially the application of long-term debt is likely to undermine profitability measures. The heavy dependence on debt increases the financial vulnerability and limits the operational performance. However, we find that the trade-off theory in terms of tax benefits can be used to increase ROE by moderate leverage levels, hence supporting the assumptions of the trade-off theory. In terms of market valuation, it is found that there is a slight negative relationship between leverage and market valuation meaning that the investors are still somewhat sceptical about highly indebted companies. These trends are echoing the larger emerging-market trends and highlighting unique features of India financial architecture which are determined by the changing regulations and a corporate debt market that is still emerging as compared to the mature economies.

Our paper is a contribution to the literature that provides multisector longitudinal empirical data. It also provides practical information to financial managers, investors and regulators that are based in the Indian environment..

Keywords: Corporate financing decisions, profitability analysis, financial leverage, debt equity ratios, asset returns, equity returns, market valuation, econometric analysis, emerging markets, Indian corporations..

1. INTRODUCTION:

1.1 Research Context

The core issue on how companies ought to divide the financing between the borrowed and the stock holder funds has long dominated the canon of disciplinary finance. The financing mix has impact on various dimensions of corporate health which include the cost of capital, the exposure to risks, the possibility of profitability and the image of the firm in the market. Starting with the capital-structure irrelevance of models that may be proposed by both Modigliani and Miller in 1958 under idealized conditions, researchers have increasingly articulated the discussion to include real-world complications in which the financing decisions have a significant impact on firm value. Theory Subsequent theory (trade-off theory, the pecking order, agency-cost models, etc.) has progressively further expanded our understanding of how variables like taxation, bankruptcy costs, information asymmetries and management incentives influence financing arrangements.

Indian companies are exposed to a very complex financial landscape. Regulatory environments are dynamic, capital markets are flawed and there are information asymmetries. There is also relative restraint in the availability of long-term credit and the macro-economic volatility is always an issue. The industrial heterogeneity of India further up to the service industry generates significant differences in financial requirements and risk profiles among firms. Unstable interest rates, increasing inflation and foreign-exchange fluctuations further compound the decision-making process of borrowing and leveraging.

India has experienced major reforms in its financial markets over the past decades with liberalization moves being made, new listing policies and gradual maturation of the corporate bond market. These changes have increased financing options, but it has also increased the level of competition, thereby forcing businesses to be more cautious in capital structuring. The comprehension of the effect that capital structure has on the performance in the particular Indian context has thus been an ever-important project.

The current studies concerning the capital-structure-performance nexus in India provide mediocre, sometimes contradictory results. Others have found positive correlations; others found negative correlations with some ones indicating that the relationship depends on the contextual factors. The large majority of the previous researches use small samples or are specific to certain

industries, thus contain gaps in substance that the current research attempts to fill.

1.2 Research Significance

The capital-structure choices are also the basic determiners of the management of the company funds. These decisions affect the financial performance of a firm and its future ability to thrive in markets of competition. The first effect is that on profitability it is instant, debt is an extra interest bill that diminishes net income whereas equity is a dilution of ownership, but no obligatory payments. The tradeoff between these factors determines the amount of resources shareholders can get. Second, there is an emphasis on risk implications. Large debt increases financial risk by forcing companies to make payments regardless of business performance, which increases the risk of bankruptcy in the case of a downturn and the likelihood of greater lack of understanding of financial performance.

The structure of financing in a firm influences the investment capacity of the firm. Companies that are too leveraged often find it difficult to raise more funds to grow and underlevered companies can miss tax incentives and opportunities to grow. Financing decisions are market signals, which convey confidence of the management and prospects of the company. It is fiscal discipline and strategic acumen at the optimal leverage, which leaves an impact on equity valuation and investor confidence.

In addition to traditional financial measures, capital structure needs to demonstrate operational efficiency, cost-management efficacy and business resilience. The performance level indicators like ROA give insight into the level of efficiency in utilising assets and the market-driven indicators like the Q of Tobin can help an investor to evaluate the possibility of future earnings and market positioning. These are futuristic measures that are an addition to the conventional accounting measures.

1.3 Why focus on India?

India is particularly an interesting location of capital-structure research. Being a new market, its developing economy possesses the characteristics of both developed and developing economies, thus creating a new research frontier. High growth and maturation of the institutions provides a dynamic environment where the decisions of financing play a critical role in the performance outcomes. The new regulatory policies have radically changed the situation in corporate financing in India. The implementation of the GST in 2017, the Insolvency and Bankruptcy Code in 2016, and a number of modifications related to SEBI and RBI are all having significant impacts on financing behaviour. The analysis of these periods brings crucial information on the effects of regulation on financing strategy.

The pattern of credit access in India has a significant difference with those of the developed economies. Bank financing is highly relied upon by Indian companies as compared to bond markets and the underdeveloped corporate debt market forms unique leverage policies. It is hence imperative to understand the impact that these credit structures have on the operational performance and market performance. The diversified economic set up of

India, ranging between the traditional manufacturing to technology services industry, also promotes different financing behaviours and performance performances within the industries.

1.4 Research Gap and Problem Statement

Despite extensive global research, findings about the capital structure-performance relationship remain somewhat inconclusive. Some studies document positive relationships, others negative, and many suggest the relationship depends on industry dynamics and macroeconomic conditions. In India specifically, most studies have used limited samples or focused on narrow industry segments. What's been missing is a comprehensive empirical investigation using firm-level panel data to understand capital structure effects across sectors.

1.5 Research Objectives

- ➢ To analyze capital structure patterns among Indian firms across sectors.
- ➢ To evaluate how leverage impacts accounting-based performance measures like ROA, ROE, and NPM.
- ➢ To measure capital structure effects on market-based performance, specifically Tobin's Q.
- ➢ To identify whether capital structure decisions vary meaningfully by industry.
- ➢ To test the relevance of capital structure theories in the Indian context.

1.6 Research Hypotheses

We propose five main hypotheses.
- ➢ H1 states that capital structure significantly impacts ROA for Indian firms.
- ➢ H2 predicts that capital structure significantly influences ROE.
- ➢ H3 suggests that leverage significantly affects Tobin's Q.
- ➢ H4 proposes that the long-term debt ratio negatively affects profitability.
- ➢ H5 hypothesizes that firm-specific characteristics significantly moderate firm performance.

LITERATURE REVIEW

2.1 Theoretical Foundations

2.1.1 The Modigliani Miller Framework. Their treatise of 1958 by Modigliani and Miller boarded the argument that in idealised market conditions there should be no form of effect of composition of the capital structure a firm has on its valuation. In particular, their second proposal put forward a positive association between leverage and the cost of equity. Later empirical analysis, however, has highlighted the flaws of this theoretical framework, when it is applied to real-world settings that are typified by tax concerns, bankruptcy risk and multiple other market imperfections.

2.1.2 Trade-Off Theory The trade-off theory was formally proposed by Kraus and Litzenberger in 1973, who assumed that companies making decisions related to using debt to obtain a concessional tax shield would weigh the resultant bankruptcy and agency costs of using debt

versus the alternative cost of obtaining a favorable capital structure. Empirical record is not uniform: in certain industry country size combinations, there is supportive evidence but in other cases, there is equivocal evidence.

2.1.3 Pecking Order Theory In 1984, Myers and Majluf developed the pecking order theory, which states that companies will have a financing preference that includes internal resources depleted first, followed by debt and equity issue as the final resort because of information asymmetry. This model throws light on the tendencies of high-growth companies to save income instead of using outside borrowings to grow.

2.1.4 Agency Cost Theory The case proposed by Jensen and Meckling in 1976 predicts the nature of conflicts that are likely to occur between the managers, shareholders, and the debt holders. The leverage is argued to provide discipline to the managerial behaviour; i.e., it curbs the excesses of free-cash-flow; however, the leverage can also create tension between the equity holders and the debt holders. This theory explains the supervisory role of the financial institutions in the Indian context where corporate borrowing is mainly obtained through bank.

2.2 Empirical Studies

2.2.1 Cross-Country Evidence Rajan and Zingales (1995) noted that the level of leverage among countries differed across countries based on the asset tangibility, the size of firms, and the profitability of firms. This difference can be converted into limited capital structure flexibility in emerging economies like India, where bank loans are the majority source of corporate financing. In 2001, Booth, Kumar and co-workers did a comparative study of ten developing economies, one of them India. Although the institutional heterogeneity was observed, they state that determinants of leverage, which are profitability, size, and tangibility, had similar patterns as those reported in advanced markets.

2.2.2 Developed Economy Evidence. The empirical investigations in the developed markets have consistently recorded a positive correlation between leverage and performance and this association is mostly because of the benefits of tax-shields which are accrued due to interest expenditure. The presence of strong investor protection systems and well developed capital markets also helps companies with high debt ratios to be highly profitable in terms of profitability and market values.

2.2.3 Emerging Market Evidence The research of Ghanaian listed enterprises by Abor (2005) revealed that short-term debt and the return on equity have a positive correlation, but long-term debt has a negative impact on profitability. This finding indicates that long-term financing cost, not to mention the risk of distress, negatively affects the firm performance in developing economies. The negative relationship between leverage and performance as evidenced by empirical data of other emerging markets is majorly influenced by the increased distress costs, macroeconomic volatility and the lack of institutional structures. High debt therefore increases the risk of bankruptcy thereby reducing its profitability and the returns made to shareholders.

2.2.4 Indian- Contextual Studies. Chakraborty (2010)

has been able to statistically prove a negative relationship between profitability and leverage in Indian firms, thus supporting the pecking order theory. It seems that profitable companies favorably tap into retained earnings and Indian businesses tend to avoid external capital sources as the cost of borrowing is high and the formal processes are rather cumbersome.

The 2016 analysis conducted by Singh (using NSE and BSE companies data) revealed that an increase in leverage has a negative impact on both the return on assets and the share of equity, which is a pointer to the fact that too much debt will cause financial stress and dilute performance. The debt-financed Indian entities are generally faced with higher interest payments and volatility hence undermining profitability.

According to the 2019 investigation carried out by Sahoo and Panda based on NSE-listed companies, leverage has a negative correlation with market value, as the data indicate that the value of Tobin decreases with increased debt levels, thus expressing the fact that investors do not trust highly leveraged businesses.

The panel data analysis presented by Prasad and Chandrasekaran in 2020 identified a negative relationship between long-term debt and profitability; meanwhile, the moderate levels of debt seem to have a positive effect on ROE, owing to benefits on taxes, which indicates that Indian companies only enjoy the benefits of using debt within optimised levels before falling into distress.

A study by Kaur and Rao (2021) has reached the conclusion that capital-structure decision-making is significantly affected by the industry characteristics, the age of the firm, and the size. Older and bigger companies tend to use more debt which is explained by a greater strength of reputational capital and creditworthiness.

2.3 Capital Structure Components.

The debt ratio measures the ratio of total assets that have been financed using debt hence indicating the level of leverage and reliance on the borrowed capital. High ratios suggest a higher financial risk and low ratios suggest a more conservative financing model which is equity-focused.

The debt-equity ratio compares debt utilized in operations with the equity of the shareholders, thus explaining the current financial and risk structure. Large D/E ratios are a signal to a high degree of debt; on the other hand, low D/E ratios reflect a strong equity financing and less exposure to risk.

Specifically, the long-term debt ratio is a measure of long-run commitments and stability evaluating the long-term borrowings, i.e., bonds, debentures, and long-term loans. High ratios imply increased borrowing to make long-term investments and growth, but with a risk of increasing interest payments in the long term.

The short-term debt ratio is a measure of financing acquired within a short period (less than one year) by short-term loans and borrowings to be used in current assets and debt. This measure indicates the liquidity risk and ability to fulfill short term obligations. The increased short term debt implies that there is pressure on the day to day cash flows and because bond markets are

underdeveloped, Indian companies tend to have higher short term debts.

2.4 Performance Measurement

Return on assets (ROA) is used to measure the efficiency with which the firm is converting its asset base into profit, therefore, measuring asset utilisation efficiency and overall firm performance. Increased ROA means excellent deployment of assets.

Return on equity (ROE) evaluates the profits that the shareholders of equity hold, thus measuring the effectiveness of using the equity capital to make profits. High ROE is an indicator of high financial performance, increased value creation to the shareholders, and well managed equity.

The Q of Tobin is used to contrast the market values of a firm (both the equity and the debt) with the replacement value of the firms assets; high Q values are associated with firms that are seen to be having significant value either due to a strong growth potential or as a result of intangible assets. This measure therefore reflects the expectations of the investors and the efficiency of the market of valuation. The earnings per share (EPS) is the amount of profit made per share of common stock outstanding. EPS gives investors a straight forward measure of profitability per share, and is a vital profitability measure; high EPS would translate to better performance of the company, and greater attractiveness to investors.

2.5 International versus Developing Market Trends.

The picture of the relationship between capital structure and performance on the international scale is a heterogeneous one, sometimes contradictory. Empirical studies in developed economies that include the United States, the United Kingdom, and Japan are in unison with a positive correlation between leverage and firm performance. The general thesis is that debt financing increases the firm value by being tax deductible on interest expense. In such situations, companies that have high debt ratios have been shown to have better profitability and market valuations which are explained by well-established capital markets and effective investor protection regimes.

On the other hand, studies on the emerging markets often reveal a negative relationship between leverage and performance. This negative impact is mostly attributed to the high cost of financial distress, the instability of macroeconomic environment and the instability of institutional framework within these economies. High dependency on debt increases the risk of bankruptcies thus reducing profitability and shareholders returns. In addition to this, companies operating in the emerging markets have consistently been facing higher borrowing rates and lending requirements, further eroding the leverage advantage.

The trend that has been shown to be global is that capital -market based financing is majorly used by developed economies and this has enabled accumulation of capital efficiently using bond and equity markets. Emerging economies, in their turn, depend on bank funding primarily, which leads to relatively conservative, risk-averse capital structures. These macro-level trends make the need to examine capital-structure mechanisms in specific national settings--at least in the case of emerging markets like India, where financing modalities differ significantly between the mature and the developing economies.

2.6 Literature Gaps

Although there exists an abundance of empirical research, various gaps in the substantive domain do exist. First, there is a lack of extensive panel-data research in India, which cuts across various industries and over long periods of time. Second, very little has been given to how the post-IBC regulation environment has had an impact on the capital-structure decisions of firms. Third, there are not many studies that are simultaneously based on both an accounting-based and a market-based performance measure. Lastly, more stringent investigation of possible nonlinearities of leverage and performance in the Indian environment should be conducted.

RESEARCH METHODOLOGY

3.1 Research Design

This paper assumes an empirical, quantitative, and explanatory design. The empirical element is based on the examination of the observed financial data, the quantitative element is based on the statistical analysis of the numbers, and the explanatory element is aimed at explaining the cause-effect relationships between the capital structure variables (independent) and the firm performance indicators (dependent).

3.2 Data Sources

All data are secondary. The main data source is the CMIE Prowess database which provides the detailed financial statements of the Indian corporate. Added to this are market-capitalization numbers acquired through the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) websites, required in calculating the Tobin Q. annual reports of the companies are referred to in order to verify the data.

3.3 Sample Selection

The sample will include 200 companies that are representatives of major non-financial industries of the Indian economy, i.e. manufacturing, information technology, pharmaceuticals, consumer goods, energy, and infrastructure. This type of composition increases the sectoral coverage and is able to reflect heterogeneous capital-structure practices in varied operational settings. The period of observation is 2010-2024, which produces a fourteen years panel. This timeframe is significant, including significant regulatory and macro-economic changes: the introduction of GST in 2017, the introduction of IBC in 2016, and radical changes to the regulations of SEBI and RBI. The period allows examining the effect of the changing institutional framework in the capital-structure decision and the performance of firms. Purposive sampling will ensure the sampled firms are representative of diverse sectors, sizes and ownership structure; hence the relevance and reliability of financial data. The inclusion is only of firms that are listed on major indices (NSE, BSE), which ensures the accessibility and transparency of data.

Notably, financial institutions, including banks, NBFCs, insurance, and other financial institutions, are sidelined

because of different regulatory regimes and balance-sheet frameworks. Their capital adequacy requirements including Basel III would be very different to that of non-financial corporations and inclusion would skew leverage and performance indicators. The sample is, therefore, non-financial enterprises.

3.4 Variable Definitions
Independent Variables (Capital Structure):
There are three leverage ratios which are operationalized. The Debt Ratio (DR) is the ratio of Total Debt and Total Assets. The Debt-Equity Ratio (DER) is a percentage of Total Debt/Total Equity. The Long-term Debt Ratio (LTDR) = Long-Term debt/Total Assets.

Dependent Variables (Performance):
Firm performance is measured by a number of indicators. Return on Assets (ROA) = Net Profit after tax/ Total Assets. Return on Equity (ROE) is Net Profit After Tax/ Equity of Shareholders. The Q of Tobin is calculated by dividing the sum of Market Capitalization and the total debt by total assets. The Net Profit over Net Sales as a percentage is known as Net Profit Margin (NPM).

Control Variables:
SIZE = the natural logarithm of Total Assets which is the size of a firm. Firm Age Incorporation The natural logarithm of firm age. Growth The percentage change in Total Revenue on a year to year basis. Fixed Assets/ Total Assets = Assets Tangibility (TANG).

3.5 Econometric Models
There are three regression specifications that we use.

Model 1 (ROA Analysis): $ROA_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 SIZE_{it} + \beta_3 AGE_{it} + \beta_4 GROWTH_{it} + \beta_5 TANG_{it} + \varepsilon_{it}$

Model 2 (ROE Analysis): $ROE_{it} = \beta_0 + \beta_1 DER_{it} + \beta_2 SIZE_{it} + \beta_3 AGE_{it} + \beta_4 GROWTH_{it} + \beta_5 TANG_{it} + \varepsilon_{it}$

Model 3 (Tobin's Q - Non-linear): $TobinQ_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 DR^2_{it} + \beta_3 SIZE_{it} + \beta_4 AGE_{it} + \beta_5 GROWTH_{it} + \beta_6 TANG_{it} + \varepsilon_{it}$

Here, i denotes firm (i=1,...,200), t denotes year (t=2010,...,2024), β_0 represents the intercept, β_1 to β_6 are coefficients, and ε_{it} is the error term. The choice between Fixed Effects (FE) and Random Effects (RE) models will be determined through Hausman tests. We'll conduct diagnostic tests for multicollinearity using Variance Inflation Factor (VIF) and for heteroscedasticity using the Breusch-Pagan test, clustering standard errors at the firm level if necessary.

3.6 Statistical Analysis Tools
Stata 18 is used to carry out data processing and econometric analysis because it is appropriate to apply to a panel-data method. Additional testing is done in R.

3.7 Research Limitations
There are a number of drawbacks that need to be mentioned. To begin with, endogeneity is an issue that should be taken into consideration. Capital structure and performance may work in synergy where the performance can affect leverage decisions like the performance can be affected by leverage decisions. Though the panel data reduce this problem, they do not completely address it, future studies can follow instrumental-variable method or generalized method of moments, which may strengthen the causal inference.

Second, there is still the problem of measurement. The proxy variables, like the ones used in the Q of Tobin, are not necessarily going to give a perfect fidelity of the underlying constructs and other market-based measures like the Q of Tobin may be highly volatile.

Third, the findings do not have a high level of generalizability; they are only relevant to large, listed non-financial companies in India and may not be applicable in micro, small, and medium-enterprises (MSME) companies, and in unlisted companies.

Lastly, the credibility of findings depends on the quality of the sources of secondary data which may sometimes have errors, prejudices or irrelevant information.

4. RESULTS AND ANALYSIS
4.1 Descriptive Statistics
The summary statistics of the variables under consideration are represented in table 1. Mean ROA is 8.97% and the mean ROE is 15.25% that represent average profitability in the sample. The average level of debt ratios is 28.5 percent, implying that Indian companies have moderate leverage on the average. However, the standard deviation of 0.158 highlights that there is a large amount of heterogeneity between firms, hence giving it a strong analytical foundation.

Tobin Q = 1.205, meaning that market, on average, highly values these companies to a small extent more than the cost of replacing the assets. The average of the long-term debt ratio stands at 14.5% which is significantly lower than the total debt ratio indicating the inclination towards short term financing in the Indian context.

Table 1: Summary Statistics

Variable	Mean	Std. Dev.	Min	Max
ROA	0.089	0.067	-0.105	0.325
ROE	0.152	0.112	-0.280	0.510
Tobin's Q	1.205	0.584	0.450	3.890
DR	0.285	0.158	0.010	0.750
DER	0.650	0.521	0.020	2.950
LTDR	0.145	0.121	0.000	0.580
SIZE	9.845	1.452	6.210	13.905
AGE	3.655	0.785	1.099	4.905
GROWTH	0.125	0.205	-0.350	0.890
TANG	0.321	0.188	0.025	0.820

4.2 Correlation Analysis
Table 2 displays the correlation table. The matrix discloses significant negative relationships between

leverage ratios (debt ratio and debt-to-equity ratio) and the performance measures (ROA and ROE) therefore, preliminary corroboration of the hypotheses H1 and H2. The direct correlation between ROA and ROE is also positive and high at 0.785, which agrees with the fact that they are both profitability metrics.

The Q of Tobin indicates that it is positively correlated to ROA and ROE and the negative correlation to leverage measures indicating that markets reward profitable and are cautious to high leverage firms.

In some cases, correlations between independent variables are high but fall short of the standard cut-off of 0.9 in regards to the severity of the question of multicollinearity. The association between the debt ratio and debt-to-equity ratio is especially strong (0.895), since such variables are correlated, as they should be. Variance inflation factor (VIF) tests will help to show the existence of a real issue of multicollinearity in our regression models.

Table 2: Correlation Matrix

	ROA	ROE	Tobin's Q	DR	DER	SIZE
ROA	1.000					
ROE	0.785***	1.000				
Tobin's Q	0.452***	0.385***	1.000			
DR	-0.321***	-0.198***	-0.105**	1.000		
DER	-0.285***	-0.165***	-0.088*	0.895***	1.000	
SIZE	0.105**	0.088*	-0.215***	0.245***	0.198***	1.000

*Note: *, **, *** denote significance at 10%, 5%, and 1% levels respectively*

4.3 Regression Results

Hausman tests established Fixed-Effects models being better than all specifications. The significance of the average VIF is 2.45 which is very low compared to the critical level of 10 which shows that multicollinearity is not a serious problem.

Table 3 represents the panel regression output obtained using Fixed-Effects specifications. In Model 1 (ROA), the debt -ratio coefficient of equal -0.128 is significant at the 1 percent level, which means that other variables held constant, a one percentage point change in the debt ratio yields a change in ROA of -0.128 percentage points which results in support of H1.

In Model 2(ROE), the debt-equity ratio coefficient of -0.085 is also significant at the 1 percent level, which proves that leverage has a negative impact on the return on equity hence proving the H2.

The nonlinear specification of the model3, that studies the Tobin Q, demonstrates an inverted U-shaped relationship. The coefficients on the linear term (0.451) and on the

squared term (-0.632) are all significant, which means that firm value increases at moderate debt levels but decreases beyond an optimal level of leverage; this supports H3.

The control variables further explain the insights: firm growth is always positive and significant across any of the models, and it is pivotal to the performance of the company; the effect of firm size is mixed but positive in terms of accounting measures and negative in terms of Q in Tobin, so the larger firms can be viewed as having fewer growth opportunities than the markets perceive them.

Asset tangibility has negative coefficients in all models, with significant level of variation in coefficients (10 \ percent in the case of ROA and ROE, 5 per cent in the case of Tobin Q), which indicates that tangible assets though acting as a collateral are not necessarily very productive in terms of giving returns in the increasingly service-oriented economy of India.

The coefficients of firm-age are positive though not significant which means that when other determinants are controlled, the age does not significantly predict performance.

Table 3: Panel Regression Results (Fixed Effects Model)

Variable	Model 1 (ROA)	Model 2 (ROE)	Model 3 (Tobin's Q)
DR	-0.128*** (0.018)	-	0.451** (0.185)
DR²	-	-	-0.632*** (0.198)
DER	-	-0.085*** (0.012)	-
SIZE	0.007** (0.003)	0.009* (0.005)	-0.102*** (0.025)
AGE	0.012 (0.008)	0.025 (0.016)	0.145 (0.105)
GROWTH	0.045*** (0.009)	0.068*** (0.015)	0.185*** (0.045)
TANG	-0.021* (0.011)	-0.035* (0.019)	-0.215** (0.095)
Constant	0.105** (0.042)	0.152** (0.068)	2.105*** (0.385)
Observations	3,750	3,750	3,750
R² (Within)	0.285	0.198	0.224
F-statistic	45.12***	32.85***	38.77***

*Standard errors in parentheses. *, **, *** denote significance at 10%, 5%, and 1% levels*

4.4 Interpretation of Findings

The robust negative correlation between Leverage and Accounting Performance.

We show that profitability is significantly undermined by increased leverage. High debt levels are associated with poor ROA and ROE, which indicate that debts have an adverse impact on operational and financial performance.

Cost items related to debt-related financial misery costs, interest payments, and lender conflicts are greater than the advantages of the tax shields.

This trend is correlated with the Pecking Order Theory that assumes that profitable companies make preference to use internal funds rather than external debt. Through high interest rates, limited access to credit, and poor corporate governance, the cost of borrowing in the Indian context is usually high, which increases the agency cost and the cost of financial distress.

The U-shaped reversed Relationship between Leverage and the Q of Tobin.

Although the performance of accounting declines steadily with leverage, market valuation (effected by the Q in Tobin) takes a more complex trend. In low to moderate leverage, a positive Tobin Q value can increase that means that shareholders can view moderate levels of debt as a sign of managerial discipline and tax efficiency. This observation is consistent with that of the Trade-Off Theory that opines that the firms trade in the debt-tax advantages and the probable bankruptcy expenses. But after having reached an optimal level, the correlation becomes negative and high debt will cause doubts on its financial stability, its repayment capacity and exposure to macro-economic shock.

The financial market therefore punishes over-by issuing debt, which has led to markets lowering the valuation of firms, which has gained relevance especially in the post-IBC (Insolvency and Bankruptcy Code) era as the law concerning default has been tightened and is now more predictable to punish highly leveraged firms.

4.5 Hypothesis Testing Summary

All five hypotheses receive support from our data:

- **H1: Accepted** - Significant negative impact of leverage on ROA found
- **H2: Accepted** - Significant negative impact of leverage on ROE found
- **H3: Accepted** - Significant non-linear (inverted U-shaped) relationship between leverage and Tobin's Q confirmed
- **H4: Supported** - Long-term debt negatively affects profitability
- **H5: Supported** - Firm-specific characteristics significantly moderate performance outcomes

5. DISCUSSION

5.1 Comparison with Prior Studies

The pernicious impact of leverage on accounting performance confirms several antecedent studies. The analysis provided by Pandey and Sahu in 2019, as well as Bhaduri in 2002, which takes place in the Indian context, both give rise to a similar suggestion. Similar trends were revealed in a classic seminal paper by Titman and Wessels published in 1988 on an international front. All these findings contribute to the image that agency cost is an issue and the financial distress risk that comes with indebtedness is a significant issue in the Indian corporate environment.

The inverted-U shape that we saw in Q under Tobin in our data replicates what McConnell and Servaes' found in 1995, and suggests a general law of value maximisation in terms of optimal debt levels. The targeted point of optimisation, however, is probably dependent on national and contextual variables.

5.2 Implications for Corporate Finance Managers

Our empirical data provide a number of practical implications to the practitioners. To begin with, debt is not to be viewed as the instrument of cost-saving; although it may be cheap in most instances, its excessive use may become harmful to profitability. Managers should go beyond reductive arche-types, which tend to narrowly concentrate on tax shields, but rather go to the extreme of conducting tiring cost-benefit analyses.

Second, it should aim to identify a long-term debt range, as opposed to an obsessive pursuit of leverage reduction. This particularly applies in the valuation perspective. The managers are advised to attempt to identify firm-specific limits to which the marginal cost of borrowing is equal to its marginal benefit.

Third, according to peck-ordering suppositions, the creation and maintenance of internal profits should be the priority of the company to finance growth. Such an approach reduces reliance on exogenous funds and costs that come with it. Through strong internal cash-generating abilities, companies not only have a higher ability to access financing, but also a good indicator of financial health to investors.

5.3 Impact on Investors

Close screening of leverages should be done by both equity and debt stakeholders. The high leverage may be regarded as a precursor to future fluctuations in earnings and a reduction in the level of dividends by equity investors. In contrast, moderate leveraged companies working in stable industries can be prudently using debt to increase the shareholder payoffs without creating the corresponding disproportionate risk.

The post-IBC regime has been advantageous to debt investors as it has strengthened the creditor position as compared to the position before the reforms. However, evaluation of the ability of a company to repay debt on operating cash flow cannot be neglected. Our results point out that the increase in leverage has a direct negative impact on ROA, which increases the risk of default.

5.4 Theoretical and Practical Insights

This paper shows that there is no single theoretical approach that can explain the capital structure behaviour in India. Peck-ordering theory is supported by the existence of the linear inverse relationship between accounting performance and leverage. Non-linear market relationship on the other hand supports the trade-off theory.

In practice, such findings imply that Indian companies are also exposed to complex environments with a high degree of information asymmetry, which is a factor that induces peck-ordering behavior, and at the same time, enables markets to internalize the trade-offs between tax benefits and distress. This, after IBC, is probably barely factored in by the post-IBC environment where the costs of a high level of debt are so massive as never to have been so noticeable previously.

6. CONCLUSION

6.1 Key Findings Summary

This study provides a solid empirical data on the impact

of capital structure on the performance of Indian firms. There are a number of key discoveries that come out of our analysis.

To begin with, the leverage has a statistically significant negative influence on accounting-based performance measures, particularly, ROA and ROE. Companies that have a larger ratio of debt are associated with low levels of profitability.

Secondly, the correlation between leverage and performance on the market (the Q of Tobin) is non-linear and follows an inverted-U trend. A moderate leverage may boost the value of firms but excessive leverage is harmful.

Thirdly, the positive influence of the firm growth is constant, regardless of the performance indices, which proves the significance of the revenue growth in the success of the corporations.

6.2 Policy Implications

To companies: Corporate boardrooms are to make explicit policies on leverage and impose limits. Risk-management committees should be keen on the levels of debt and their implication on the financial ratios. The days when it was possible to blindly take debt in the name of tax shelter are historical- a subtle hand is necessary.

To regulators (SEBI/RBI): The evidence supports the purpose of reforms including the IBC which seeks to imbibe credit discipline. The regulators should continue to cultivate more corporate bond markets, which will provide the firms with better finance options other than bank debt. This may possibly limit the overall cost of debt and redesign capital-structure decisions in favour.

6.3 Literature Contribution

This paper adds value in a number of ways: -
- ➢ Making available modern analyses such as include substantial periods of Indian regulatory transition.

- ➢ The use of extensive sets of accounting and performance measures based on the market.
- ➢ Predicting performance and outcomes using strong methodologies on big, multi-sector panel data.
- ➢ To show the simultaneity of the applicability of both peck-ordering and trade-off theories to the Indian context.

6.4 Future Research Directions

Dynamic Modeling: Future scholarship would utilize dynamic panel models (System GMM) to be more flexible to performance persistence and endogeneity.

Sector-Specific Analysis: A further study of the relationship between capital structure and performance within strategically sensitive industries, such as infrastructure, pharmaceuticals, or renewable energy, may help us learn more.

Ownership Structure Effect: The study of the role of promoter ownerships, institutional ownership, and foreign ownership in leverage-performance relationships may also demonstrate more intricacies.

Macroeconomic Linkages: It would be more holistic to explore the role of macroeconomic variables, e.g. GDP growth, inflation and interest-rate cycles, in determining optimal capital structures of Indian firms.

6.5 Concluding Remarks

The capital-structure decision is a key determinant of the performance of Indian firms. Although debt is another significant source of corporate financing, its abuse may significantly damage profitability and firm value. Companies will need to put in place disciplined leverage frameworks which are strategic and well balanced to risk and returns in changing economic conditions to ensure sustainable growth in India

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