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***Research paper***

# Impact of Capital Structure on The Performance of Non-Financial Firms in Emerging Markets: Evidence from The Bombay Stock Exchange Using GMM Estimation

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**Abstract**

This study investigates the effect of capital structure on the performance of 289 non-financial firms listed on the Bombay Stock Exchange (BSE) from 2018 to 2023. Capital structure, defined as the mix of debt and equity, significantly influences firm value. Unlike earlier studies focusing mainly on ROA or ROE, this research includes net profit and gross profit margins. Using the two-step Generalized Method of Moments (GMM) to address endogeneity, the study incorporates Modigliani and Miller's theory, agency theory, and the pecking order theory. Results show a negative relationship between long-term debt and firm performance. Firm size positively impacts efficiency, while a higher dividend payout negatively correlates with ROE. Sales growth enhances firm performance, and asset tangibility negatively affects efficiency. The study is limited by its regional scope and five-year period, suggesting future research should include more countries and extended timeframes for broader insights.

***Keywords***: *Capital Structure; Firm Performance; Generalized Method of Moments; Leverage; Emerging Markets.*

## 1. Introduction

Corporate policies of firms include capital structure, dividend policy, cash and asset management, level of cash holding, and working capital management. Capital structure is the combination of debts and equity of a firm. Debts include short-term debts, which are part of working capital, and long-term debts, which arise with debentures and bonds; on the other hand, equity comes from the issuance of shares from the company, and stockholders are the owners and possess retained earnings (Isaac & Ayodeji, 2024).
Capital structure is a significant element of a firm's wealth and performance. So, this study aims to check the impact of ownership structure on firms' performance and efficiency in India (Gnanaprasuna et al., 2025). Capital structure is to be said debt to equity ratio because this ratio denotes shows how an entity funds its operations and the proportion of debt and equity. Research on capital structure started after 1958 with the postulation of Modigliani and Miller, namely "Irrelevance theory of capital structure, "who suggested that the assumption of perfect market capital structure has no impact on firms' performance and faced criticism by many scholars as perfect market existence is difficult in the actual era. Afterward, four theories on capital structure arose: agency theory, pecking order theory, trade-off theory, and market timing theory.
Their assumption is different when comparing Modigliani and Miller's theory with other capital structure theories related to imperfect market conditions. However, they stand that capital structure is relevant to firms' value. Hence, no one theory perfectly explains the relationship of the subject. Ali (2013) suggested that the literature does not prove the exact relation of capital structure on firms' performance, instead spending more than fifty years of research. However, he claimed that recent research is more critical than Modigliani and Miller's simple assumption. Besides, the research did not find the exact combination of capital structure, i.e., the ratio of debts and equity. However, they proved some relation between capital structure and the firm's value, performance and efficiency, and governance.

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To the best of this study's knowledge, prior research on the relationship between leverage and firm performance has primarily examined one factor, such as return on assets, while ignoring other performance variables, such as return on equity, net profit margin, and gross profit margin. These studies have been conducted in both developed and developing nations. With analysis support from BSE, this study aims to determine how capital structure affects the performance of different types of organizations. The data from 200 non financial companies on the Bombay Stock Exchange was analyzed. The balanced panel data for this study, newly registered firms, delisted and defaulter companies, and those companies that did not supply data for any year skipped from selection, analyzed using the two-step generalized methods of moments. The analysis comprises results from econometric equations, correlation, and descriptive statistics.

This study analyzes data from non financial BSE-listed companies to answer their search question: Does a firm's capital structure affect the various types of firm performance? This study contributed by looking at the relationship between leverage and different types of firm performance. Previous research had ignored other performance and profitability ratios, such as net profit margin or gross profit margin, except in the case of Muhammad et al. (2014) and stock prices, particularly in emerging markets, and instead concentrated on the least profitable types of performance, such as ROA and ROE. This study included data from five years and one sector, but it also included data from recent years from all non financial firm sectors. This study will also be helpful for companies while their strategic planning and policy about the debt and equity ratio are also helpful for govt. For the formation of codes of conduct and laws of companies.

## 2. Literature Review

Research about the association between capital structure and firm performance continued since 1958 with the development the theory of Modigliani and Miller. Literature proved that several factors influenced the association of leverage and efficiency of the firms, such as the size development of the country. The pattern of capital structure and firm performance may be different in various studies such as; many studies show a positive connection between leverage and firm efficiency (Adair & Adaskou, 2015; Fosu, 2013; Nimalathasan & Brabete, 2010),Whereas some studies proved that capital structure and firm efficiency and profitability has an adverse relation such as(Taani,2013;Salim&Yadav,2012),on the other hand, numerous studies (Jaisinghani & Kanjilal, 2017; San & Heng, 2011) proved that leverage has dual sides influence on corporate performance, i .e., positive plus inverse. Several theories, including MM theory, agency theory, and pecking order theory, have been demonstrated to be applicable in various research by the literature (Olusolaetal. 2022; Abdullah & Tursoy, 2021; Muhammad et al.,2014; Ali,2013; Margaritis & Psillaki, 2007). Leverage has a notably positive effect on a firm's performance. Numerous factors, including business size (Boone et al., 2007; Beck et al., 2005), dividends, firm age (Graham et al., 2011), tangibility (Al-Najjar, 2012), and growth prospects (Chandha & Sharma, 2015; Riani & Mala, 2024; Sharma, 2022) have been shown to influence firm performance in the literature.

Modigliani and Miller presented a capital structure theory 1958 based on the assumption of perfect market conditions, demonstrating that firm performance is free to capital structure. Dada & Ghazali, (2016) stated that the capital marketplace is perfect when external and internal stakeholders have contact information freely so that transaction costs will be absent, and no insolvency costs will exist. This theory claims firm value is free from leverage; hence, there is no link between firm performance and capital structure; debt and equity are perfect alternatives (Akeem et al., 2014). A firm's finances are of various types, such as short, average, and lengthy terms based on time, while internal or external, the firm can gain any finance according to its needs (Muritala, 2012). MM theory opposes capital relevance theory, but imperfect situations exist in the real world.

According to Jensen and Meckling's agency theory, the agency is the relationship between the principal, the owner, and superior authority, and the agent, a person hired by another party to carry out any task on his behalf in exchange for payment. Agency conflicts arise because these agents manage the company; their role is distinct from that of the firm's owner. As a result, they set policies and make decisions based on their interests. Agency conflicts result in increased agency expenditures. Agent decisions prioritizing the interests may impact the firm's wealth and owners' return. According to agency theory predictions, a higher percentage of debt in the capital structure could boost a company's efficiencies incident acts as a tax shield. ((Farandy & Afkar, 2022; Avula & Mamilla, 2024) Higher debt levels lower agency costs and increase a company's value in several ways, including by allowing for the monitoring of debt holders' behavior. Wangi et al. (2018) demonstrated how the company's debt financing may influence a manager's decision to act opportunistically for personal gain.

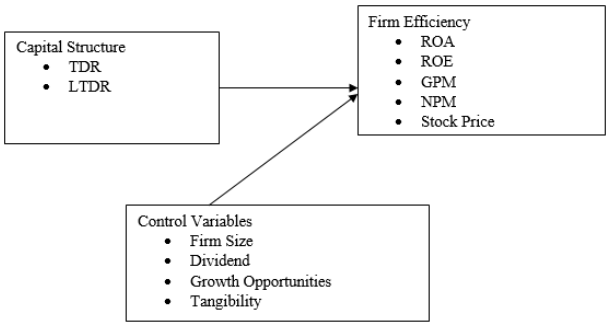
The pecking order theory was introduced by Myers and Majluf in 1984 to explain how firms behave regarding capital structure decisions. According to this idea, corporations favor financing from accumulated earnings because it is an internal or primary funding source; this practice is known as plowing back. Regarding funding, a company's second goal is to obtain money from outside sources, such as debt, bonds, and debentures; if given the option, a company will not choose convertible securities. (Avula & Mamilla, 2024) Equity and securities are a company's last option for financing because they are the riskiest and most expensive form of capital. Firms first prefer funds that are less risky and less costly. Those firms with insufficient retained earnings may get funds from external source such as debts and equity to invest in +ve NPV projects. Ozkan (2001) proved that there is an inverse relation between debt and profitability.

Xu et al., (2022) conducted a study of the Shanghai and Shenzen Stock Exchange by using data from 2009-11 with a sample of 141 pharmaceutical firms to inspect the association of leverage and firm efficiency by using multiple regression analysis. They demonstrated that an inverse relation exists between leverage and firm performance. Abdullah and Tursoy (2021) led a study in Germany between 1993 and 2016 to examine the impact of leverage and firm performance by GMM estimation technique. They proved that there is a positive influence on capital structure and firm performance. Ahmed & Bhuyan, (2020) conducted a study of Pakistan to investigate the impact of capital structure on firm performance; a sample taken from the food sector proved positive and significant associations among subjects. Alam et al. (2024) also conducted a study in Pakistan using 155 firms in the textile sector to determine the influence of capital structure on firm efficiency using 2007 to 2012 6-year data. They concluded that capital structure significantly impacts firms' performance and efficiency. Hence, on the basis of the above discussion of theories and empirical literature, this study wants to inspect the influence of firm leverage or capital structure on firms' performance and efficiency by using 289 firms' data (2018-2023) from different sectors registered at Bombay Stock Exchange, and this study hypothesized as:

### 2.1. Hypothesis

H1a: Capital structure has a significant impact on a firm's ROA.
H1b: There is a significant association between capital structure and return on equity (ROE).
H1c: There is a significant link between capital structure and gross profit margin ratio
H1d: There is a significant relationship between capital structure and net profit margin ratio.
H1e: There is a significant association between capital structure and the firm's stock price at BSE.

### 2.2. Theoretical framework




## 3. Research Methodology

This study employed STATA software for econometric analysis and largely used data from all listed non-financial corporation's on the Bombay Stock Exchange for the years 2018–2023. The final sample does not include firms that were delisted during the period, listed after 2018, or did not submit data for any year. Banking institutions, insurance companies, and other businesses are excluded from this study for analytical purposes since financial companies have their own set of financial regulations and standards that differ from those of financial organizations, hence they are not included in the sample (Le & Phan, 2017). Balanced panel data used in analysis and excluded those firms who's any year or any variables data not present. Funnel approach used in this study while selecting sample, BSE listed non-financial firms is the population. Hsiao (2022) proved that panel data has advantages such as more in quantity and detailed data it helps to minimize the collinearity between variables as compared to some else sorts of data. Guha and Bhaduri (2002) expressed that panel data insisted on huge number of data and observation and there is anticipated that it will be more robust, multicollinearity will be minimized on the other hand in time series and cross section data, this problem exist. (Avula & Mamilla, 2024) Generalized methods of moments (dynamic) model, for the purpose of robustness checking two step econometric model used in Stata software.

### 3.1. Measurement of variables

Capital structure is the explanatory variable of this study, and is the combination of debts and stock of a firm. Different proxies used for capital structure such as, debt to equity, debt to assets, etc. this study used two proxies for the measurement of capital structure; one is total debt ratio and 2nd is long term debt ratio. Firm performance is the regressive variable of this study. Mostly studies measure profitability (ROA) as firm performance and ignores other firms performance such as ROE, NPM, GPM and SP. ROE means return on equity, NPM means net profit margin, the ratio of net profit and sale, GPM means gross profit margin, gross profit scales on sales of firm while SP measure log of per share price in market. There are various determinant of firm performance such as firm size, dividend etc., based on previous studies (Abdullah & Tursoy, 2021; Ali, 2013), firm size, sale growth, dividend used as control variables. Firm size is the log of total assets of firm, sale growth is the change in sale year to year (CY sale-PY sale)/PY sale, and dividend means payments to owners in stock return, and tangibility is the ratio of long term asset sand total assets.

### 3.2. Econometric model

Balanced panel data and regression equation run for the analysis to achieve the goal of this study. For panel data regression analysis various estimation methods used such as; REM, FEM, GMM or POLS, OLS (Abdullah & Tursoy, 2021; Dawar, 2014). This study used GMM (dynamic model) for the purpose of analysis because the problem of autocorrelation and heteroscedasticity, as random effect and fixed model cannot overcome. GMM two steps used to measure the influence of capital structure on firms efficiency. Hence following panel regression models used to check the subject:

1) $ROA_{i,t}= \alpha+\beta 1TDR_{i,t}+\beta 2LTR_{i,t}+\beta 3FS_{i,t}+\beta 4DPR_{i,t}+\beta 5SG_{i,t}+\beta 6Tng_{i,t}+\varepsilon_{i,t}$

2) $ROE_{i,t}= \alpha+\beta 1TDR_{i,t}+\beta 2LTR_{i,t}+\beta 3FS_{i,t}+\beta 4DPR_{i,t}+\beta 5SG_{i,t}+\beta 6Tng_{i,t}+\varepsilon_{i,t}$

3) $GPM_{i,t}=\alpha+\beta 1TDR_{i,t}+\beta 2LTR_{i,t}+\beta 3FS_{i,t}+\beta 4DPR_{i,t}+\beta 5SG_{i,t}+\beta 6Tng_{i,t}+\varepsilon_{i,t}$

4) $NPM_{i,t}=\alpha+\beta 1TDR_{i,t}+\beta 2LTR_{i,t}+\beta 3FS_{i,t}+\beta 4DPR_{i,t}+\beta 5SG_{i,t}+\beta 6Tng_{i,t}+\varepsilon_{i,t}$

5) $SPi,t= \alpha + \beta 1TDRi,t + \beta 2LTRi,t + \beta 3FSi,t + \beta 4DPRi,t + \beta 5SGi,t + \beta 6Tngi,t + \varepsilon i,t$

Where:
ROA, ROE, GPM, NPM and SP are used for measure of firm performance. ROA is return on assets, ROE is return on equity, GPM is gross profit margin, NPM is net profit margin and SP is price of stock.TDR and LTR are measures for capital structure; TDR is total debt ratio while LTR is long term debt ratio. FS, DPR and SG are used as control variables, FS is firm size, DPR is dividend payout ratio and SG is the sale growth, Tng is tangibility, t is time (number of years) and i for number of firms.

## 4. Findings of The Study

Table-1 shows the summary of sample which is used for the analysis, got from 289 non financial companies listed at BSE. This table shows the average, high value, lowest value, standard deviation and kurtosis of variables.

**Table1:** Descriptive Summary

| Variable | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|
| ROA | 4.997 | 8.9098 | -43.9708 | 51.1557 |
| ROE | 12.063 | 21.8735 | -87.1569 | 140.3356 |
| GPM | 16.0713 | 13.9762 | -50.4898 | 81.0201 |
| NPM | 4.133 | 14.2421 | -79.2979 | 53.1504 |
| SP | 4.1414 | 1.7231 | 0 | 9.1485 |
| TDR | 0.6028 | 0.3841 | 0.0364 | 5.7667 |
| LTDR | 0.905 | 0.13137 | 0 | 1.7774 |
| FS | 7.0174 | 0.7953 | 4.6338 | 9.6947 |
| DPR | 0.364 | 2.5874 | -8.8790 | 87.0105 |
| SG | 0.187 | 0.6858 | -0.8972 | 16.6884 |
| TNG | 0.404 | 0.2016 | 0 | 0.9331 |

The average of return on assets is 4.997 which show that the average ratio of ROA is 4.997 of non-financial companies which are registered at BSE. The average of return on equity is 12.063. Meanvalueofgrossprofitmarginis16.07 shows rate of gross profit on sales of firm. The rate of net profit margin is 4.133 against the sale of firm which shows that if a firm makes a sale of 100 it will get 4.133 as a net profit, this rate got by average number of firm. Stock price in the market average of Bombay stock exchange non financial firm's average is 4.14. The mean value of total TDR is 0.6028 which means that average of firms has 0.60 total debts against total assets. The average of LTDR is 0.905; show that long term debt to total liabilities and equity ratio is 0905. Average of firm size is 7.0174 while average dividend payout ratio is 0.36 means ratio of dividend per share to earnings per share. Mean value of sale growth is 0.187 which shows that average firms have sale change in every next is 18.7%, at the end tangibility average value is 0.404.

**Table 2:** Correlation

| | ROA | ROE | GPM | NPM | SP | TDR | LTDR | FS | DPR | SG | TNG |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ROA | 1 | | | | | | | | | | |
| ROE | 0.648 | 1 | | | | | | | | | |
| GPM | 0.576 | 0.3844 | 1 | | | | | | | | |
| NPM | 0.7407 | 0.4438 | 0.6322 | 1 | | | | | | | |
| SP | 0.2475 | 0.1972 | 0.1547 | 0.108 | 1 | | | | | | |
| TDR | -.3488 | 0.0418 | -0.2558 | -0.3725 | -0.2444 | 1 | | | | | |
| LTDR | -.2738 | -0.0231 | -0.1449 | -0.276 | -0.1136 | 0.5015 | 1 | | | | |
| FS | 0.196 | 0.2026 | 0.2072 | 0.2403 | 0.4016 | -0.021 | 0.1393 | 1 | | | |
| DPR | 0.0336 | 0.0165 | 0.0686 | 0.0315 | 0.0909 | -0.0381 | -0.013 | 0.0386 | 1 | | |
| SG | 0.0768 | 0.0397 | 0.0244 | 0.0405 | -0.059 | 0.0189 | 0.0493 | 0.0056 | 0.0075 | 1 | |
| TNG | -.3586 | -0.281 | -0.3399 | -0.3375 | -0.3252 | 0.0536 | 0.1727 | -0.1323 | -0.0346 | 0.0082 | 1 |

Results of correlation show that TDR has an inverse relation with ROA, GPM, NPM and SP but among the following highly correlated with ROA that is 34.88% means if there is 1% increase in TDR, there will be 34.88% decrease in profit against assets. While TDR is positive associated with return on equity which means if there is increase in total debts ratio there will be increase in return on equity because firms need more leverage or debt to perform better. LTDR is inverse correlation with five types of firm efficiency such as ROA, ROE, GPM, NPM and SP but among them highly correlated with return on asset i.e.27.38%. LTDR is positive correlated with TDR that is 0.5015. Firm size has positive correlation with all proxies of firm efficiency and highly correlated with SP among wholly. Firm size has an inverse correlation with TDR (-0.021) while positive correlated with LTDR (0.1393). Dividend payout ratio is positive correlated with all types of firm performances which mean when there is an increase in dividend payout ratio firm efficiency increases, among all proxies firm size is at higher level of correlation with stock price which is in market. Sale growth has positive correlation with first four proxies of firm efficiency such as ROA, ROE, GPM and NPM while an inverse correlation with SP. Sale growth positive correlated with TDR, LTDR, and firm size. Tangibility of firms has an inverse correlation with all types of firm efficiency, positive correlated with TDR, LTDR and sale growth, while inverse relation with firm size and dividend payout ratio.

## 4.1. GMM regression analysis

This study used dynamic model GMM for the analysis. GMM estimating technique was developed by Arellano and Bond in 1991 to control the problem of endogeneity, other estimator such as pooled OLS, fixed effect or random effect do not control the problem of endogeneity and so biased and inconsistent (Le and Phan, 2017). Generalized method of moments, two steps used to check the effect of leverage on the performance of firms; BSE listed non-financial firms with the data of 6 years i.e. 2018 to 2023. Arellano and Bond (1991) recommend main diagnostic tests to examine the validity of the GMM estimation which conducted for autocorrelation errors. AR (1) should significance which will show normal serial correlation between residual while AR(2) should be insignificant, must not be correlated. H0 describes that residuals do not correlated. When Arellano- Bond AR (2) insignificant, null hypothesis could not be rejected which shows there is no serial correlation between residual errors. The probability of AR (2) test is greater than 0.10 which shows it is insignificant and model is fit due to no serial correlation.

**Table 3:** GMM Panel Regression

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| L1.(DV) | 0.2472*** | 0.17127*** | 0.5662*** | 0.3478*** | 0.3517*** |
| | (0.0499) | (0.0653) | (0.0936) | (0.0910) | (0.0793) |
| TDR | -5.9829*** | -2.5207 | -4.4254** | -7.4587*** | -0.8661*** |
| | (1.0390) | (2.1548) | (1.7791) | (1.9554) | (0.2567) |
| LTDR | -1.1116 | 2.3141 | -6.6471 | -10.2934** | 0.6255 |
| | (2.1795) | (6.8865) | (4.3401) | (4.2527) | (0.6974) |
| FS | 0.9820*** | 3.3685*** | 1.2365** | 2.4868*** | 0.4149*** |
| | (0.3623) | (0.95045) | (0.5619) | (0.7188) | (0.1355) |
| DPR | -0.0831 | -0.31050* | 0.34116 | 0.2326 | 0.0166 |
| | (0.0916) | (0.18204) | (0.3027) | (0.2547) | (0.0199) |
| SG | 5.4591*** | 10.5097*** | 4.2208*** | 5.3669*** | -0.184 |

| | | | | | |
|---|---|---|---|---|---|
| | (1.1301) | (2.2376) | (1.4502) | (1.5296) | (0.1105) |
| TNG | -9.3126*** | -17.6543*** | -8.6203*** | -11.9097*** | -1.5218*** |
| | (1.5473) | (3.55258) | (2.5508) | (2.9670) | (0.4137) |
| _cons | 3.2376 | -7.9682 | 4.1641 | -5.7059 | 0.7705 |
| | (2.7237) | (6.2406) | (4.2684) | (4.8802) | (0.9964) |
| Wald $Chi^2$ | 262.71 | 142.39 | 250.21 | 207.72 | 129.90 |
| Prob >$Chi^2$ | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| AR(1) | 0.000 | 0.001 | 0.000 | 0.000 | 0.005 |
| AR(2) | 0.399 | 0.916 | 0.391 | 0.186 | 0.134 |

Table 3 GMM panel regression; ROA is return on assets, ROE is return on equity, GPM is gross profit margin, NPM is net profit margin, SP is the stock price of share in market, TDR is total debt ratio, LTDR is long term debt ratio, FS is firm size, DPR is dividend payout ratio, SG is sale growth and TNG is tangibility. Asterisks show the level of significance such as *, **, *** shows significant at 10%, 5% and 1% respectively. Standard error of a variable showed parentheses. A coefficients value shows the strength of relationship between explanatory and dependent variable. Model 1, 2, 3,4 and 5 used for ROA, ROE, GPM, NPM and SP respectively. AR (1), AR (2) are Arellano Bond test (first difference). AR (1), AR (2) show the model fitness.

Five models are used to inspect the influence of leverage on firm efficiency and control factors. The results table shows the coefficients and standard error values. The first model is presented in the first column, which checks the impact of leverage on profitability, such as ROA. This model shows that TDR has an inverse relation on firm performance, which is highly significant at 1% (- 5.9829), and states that if TDR increases one, there is a time decrease in return on assets. The impact of TDR on each type of firm performance has an inverse relation. TDR is not significant with ROE, highly significant with ROA, NPM, and SP at 1%, and 5% with GPM. LTDR has an inverse relation with NPM at a 5% significance level, -7.4587 showed that when there is 1 number increase, there will be 7.45 decreases in LTDR. The remaining types of firm's efficiencies are not significant hence, there is no relationship of LTDR and ROA, ROE, GPM, and SP. As leverage has an inverse relation with firm performance (LTDR), this study is in line with Gill and Mathur (2011) and Chechet and Olayiwola (2014), while mixed results (TDR) are in line with Mardones and Cuneo (2024). Leverage has an inverse impact on performance. This means that when the debt ratio increases in a firm's capital structure, it reduces the firm value, and firms should use their internal funds to enhance their profitability and performance.

Firm size has a positive impact on each type of firm efficiency; for instance, firm size has a co- efficient value of 0.982 on ROA, which means if there is one increase in firm size, there will be a 0.98 increase in return on assets of a firm. Firm size is highly significant with ROA, ROE, NPM, and SP at 1% and 5% significant with GPM. Literature such as (Nenu et al., 2018; Ramadan, 2013) proved that a firm's size positively influences performance and wealth. Positive impact postulates that large firms benefit from an economy of scale while issuing LTD and differentiating their goods. As a result, the performance of that firm improved. The dividend payout ratio is in verse to return on equity, a 10% significant level. Coefficient value -0.3105showeda1%riseinfirmsize and a cause of 31% decrease in ROE. In the remaining proxies of firm performance, there is no statistical relation, which is insignificant.

Results of sale growth showed a positive influence on corporate efficiency, performance, and wealth except SP. This means that with the increase in sales growth of the company, its wealth also increases. Statistically, the relationship between sales growth and firm efficiency is solid due to its high significance. Sales growth is significant at the 1% level, such as ROA, ROE, GPM, and NPM, while it is insignificant with SP. Tangibility has a negative impact on firm efficiency; also, statistically, their relation is vital due to the high significance level of 1%. Tangibility is inverse to firm performance in the line (Jaisinghani & Kanjilal, 2017; Ayaz et al., 2021). Vatavu (2015) stated that when corporations invest less in physical assets and sustain a high equity ratio in their capital structure, they gain a higher level of performance and wealth as a result.

# 5. Discussion and Conclusion

## 5.1. Discussion

Since the development of the Modigliani and Miller hypothesis (1958), which demonstrated that leverage and firm performance are irrelevant, researchers have focused on determining whether capital structure is related to firms' wealth and performance. The majority of research in the literature is from industrialized nations, with the least number coming from emerging markets, as demonstrated by Ayaz et al. (2021). They added that earlier research had yet to be able to confirm the precise impact of the subject. In order to examine the effects of corporate capital structure on wealth and business performance in emerging markets like India, this study used data from 289 non-financial enterprises listed on the BSE spanning six years, from 2018 to 2023. This study used panel data and GMM, a dynamic model used for the analysis to check the subject. This study is based on the MM, Agency, and pecking order theory.

This study demonstrates the inverse relationship between leverage and firm performance (LTDR), which is consistent with the findings of Gill and Mathur (2011) and Chechet and Olayiwola (2014). However, inconsistent results (TDR) are consistent with the findings of Mardones and Cuneo (2019). Because leverage is inverse to performance, organizations should use their finances to improve profitability and performance. Specifically, when a firm's debt ratio rises within its capital structure, its value decreases. This study supports the findings of Nenu et al. (2018) and Ramadan (2013), which shows that firm size, has a favorable impact on performance by showing that firm size has a beneficial impact on efficiency. Positive impact postulates that large firms benefit from economies of scale while issuing long-term debts and differentiating their goods. As a result, the performance of that firm improves. The dividend payout ratio (DPR) is unimportant to other measures of business performance, and it has an inverse relationship with return on equity. Sales growth had a favorable effect on the performance, wealth, and efficiency of the company, except for the fifth model, which was statistically insignificant. This implies that the company's wealth grows in tandem with its sales growth. The efficiency of a corporation is inversely correlated with its tangibleness. According to Ayaz et al. (2021), there is an inverse relationship between tangibility and firm performance. According to Vatavu (2015) companies become more efficient when they maintain a large proportion of equity in their capital structure while investing little in tangible assets.

### 5.1.1. Recommendations

Regulatory Measures to Encourage Optimal Capital Structure

Regulators such as SEBI could introduce indicative benchmarks for optimal long-term debt ratios by industry. These would not be rigid caps but disclosure-based ranges to guide firms and investors. By signaling healthy leverage levels, such guidelines can discourage excessive borrowing that erodes firm value and performance.
Mandatory, standardized reporting of long-term debt, short-term debt, equity and retained earnings in annual statements would improve transparency. Clearer disclosure enables investors and lenders to price risk more accurately and creates market discipline that encourages firms to adopt efficient capital structures.
Governments can rebalance the current debt bias by offering tax credits or reduced stamp duties on equity issues and reinvested earnings. At the same time, reviewing the full deductibility of interest payments could prevent an artificial incentive to finance through debt, especially in emerging markets.
Accelerated depreciation or reinvestment allowances for companies that fund growth internally rather than through loans would strengthen balance sheets. This policy would reward firms that maintain larger equity buffers and reduce reliance on leverage.
Developing large domestic pension, insurance and sovereign wealth funds as long-term equity investors can help firms raise stable capital. This deepens equity markets and reduces dependence on short-term bank debt, particularly for mid-sized and emerging-market companies.
Boards should be encouraged to link executive compensation to prudent debt ratios and capital efficiency metrics. This alignment of incentives helps counteract agency problems and discourages managers from taking on unsustainable leverage for short-term gains.

## 5.2. Conclusion

This study contributes to the limited body of evidence on the relationship between capital structure and firm performance in emerging markets by analyzing panel data from 289 non-financial companies listed on the BSE between 2018 and 2023. Using a dynamic GMM framework grounded in the Modigliani–Miller, agency and pecking-order theories, it confirms that higher long-term leverage (LTDR) is inversely related to firm performance, while firm size and sales growth have a positive impact. Tangibility and dividend payout ratios show negative or insignificant effects on performance, indicating that asset-heavy strategies and high payouts may undermine efficiency in such contexts. The findings suggest that managers and policy makers in emerging markets should not view capital structure as neutral, but rather as a strategic choice with measurable effects on profitability and wealth creation. Regulatory bodies can encourage optimal debt–equity mixes through enhanced disclosure, equity-friendly tax incentives, stronger institutional investor bases, deeper corporate bond and SME equity markets, and training programmes to improve financial decision-making at the firm level. Supporting asset-light strategies and sales growth will also indirectly strengthen internal financing capacity and reduce excessive reliance on debt.
Despite these contributions, the study is limited to one country, a six-year period and a restricted set of variables. Future research should extend the analysis across multiple emerging economies, longer time horizons and additional determinants such as macroeconomic conditions, governance indices and behavioral factors. Exploring non-linear relationships and sector-specific dynamics with more advanced econometric tools would further refine understanding of how capital structure affects performance. Overall, the results underscore that in emerging markets like India, a balanced, equity-oriented capital structure aligned with firm size, growth prospects and asset profile is more likely to enhance long-term performance. Policymakers and managers who integrate these insights can contribute to more resilient firms and healthier financial markets.

### 5.2.1. Limitations

This study has several limitations that should be acknowledged. First, it focuses only on 289 non-financial firms listed on the BSE and covers a relatively short five-year period (2018–2023), which may restrict the generalisability of the findings to other sectors, countries or longer economic cycles.
Second, the analysis employs only two measures of leverage (LTDR and TDR), so other potentially relevant dimensions of capital structure such as cost of debt, maturity structure or off-balance-sheet financing are not captured.
Third, macroeconomic variables, governance quality, ownership concentration and managerial behavioral factors were not incorporated, which may have influenced the results.
Finally, while the GMM technique helps address endogeneity, it cannot fully eliminate all unobserved heterogeneity or measurement errors. These limitations highlight the need for broader, longer and more detailed studies to deepen understanding of capital structure effects in emerging markets.

### 5.2.2. Future research

Future studies could expand the scope of this analysis beyond India to multiple emerging economies, allowing for cross-country comparisons of the leverage–performance relationship under different institutional and regulatory conditions. Extending the sample period beyond six years would help capture full business cycles, crises and policy shifts, while incorporating additional variables such as macroeconomic indicators, corporate governance factors, ownership patterns and behavioural aspects of management would provide a more holistic understanding of capital structure decisions. Researchers may also investigate non-linear or threshold effects to identify optimal debt ratios, explore sectoral and firm-size differences, and examine how the maturity of financial markets moderates the impact of leverage on performance. Finally, applying advanced econometric and machine-learning techniques can address endogeneity more rigorously and uncover subtler dynamics between capital structure and firm outcomes in emerging markets.

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