

Capital Structure and Financial Performance: Evidence from Listed Pharmaceutical and Chemical Firms in Bangladesh

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ABSTRACT

This study examines the impact of capital structure, specifically leverage, on the financial performance of Pharmaceutical and Chemical companies. The study analyses profitability, liquidity, asset tangibility, business size, and firm growth using a panel dataset of thirty-three companies spanning ten years. Information is gathered from secondary sources, primarily annual reports, and financial statements of the respective companies. The findings reveal a significant positive relationship between leverage and profitability, suggesting potential benefits from debt financing. Conversely, a significant negative relationship exists between leverage and liquidity, indicating a possible trade-off between profitability and short-term solvency. Surprisingly, there is no statistically significant relationship between the tangibility of assets and the growth of a corporation with its level of debt. These findings provide significant information for financial managers in Pharmaceutical and Chemical firms, emphasising the significance of a well-balanced capital structure that maximises profitability while ensuring sufficient liquidity. Nevertheless, additional study in more diverse settings is justified due to constraints such as dependence on secondary data and industry-specific focus.

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1. Introduction

Capital structure is a cornerstone of financial management, investment, dividend decisions, and a trio of fundamental concepts (Damodaran, 2012). The term "structure of capital" refers to the combination of debt and equity that a company employs to fund its activities (Rotinsulu, 2023). A suitable capital structure allows a firm to use its available funds efficiently. An efficiently structured capital ensures that the company's financial needs are precisely evaluated, and funds are obtained from various sources in specific quantities for the most advantageous application (Sike et al., 2023). A strong capital structure strengthens the

company's organisational structure. A robust capital structure discourages excessive debt financing as it impairs a company's capacity to fulfil its responsibility of paying interest to the debt provider during periods of low earnings (Rundjan & Susanti, 2023). It assists organisations in optimising their financial leverage and enhancing their value, offers policymakers insights into the financial health and long-term viability of the industry, and empowers investors to make informed assessments.

2. Significance of the study

The Pharmaceutical and Chemical industry is crucial to a country's economic well-being. These industries facilitate advancements in public health, foster innovations in material science, and drive industrial growth. Companies in these industries must navigate a dynamic and fiercely competitive market, necessitating efficient financial management measures for long-term viability (Mikulic, 2023). The financial strategy highly depends on the capital structure, which refers to a company's specific blend of debt and equity financing (Ebaid, 2009). A firm's capital structure significantly affects its financial risk, operational flexibility, and ability to create value for its owners. Attaining the optimal balance between debt and equity finance is a complex undertaking. When making pivotal decisions, firms must consider a broad spectrum of internal and external factors (Rotinsulu, 2023). This study investigates the determinants of the capital structure of publicly traded Pharmaceutical and Chemical companies in Bangladesh. Acquiring knowledge about the factors that impact their choices regarding debt levels offers valuable insights for making wise financial decisions within these businesses. Moreover, it improves the understanding of the financial framework of publicly listed companies within the context of Bangladesh. The Pharmaceutical and Chemical sectors necessitate substantial financial investment. Research and development (R&D) is crucial for developing new drugs and groundbreaking materials, requiring significant upfront investments. In addition, these industries sometimes require substantial expenditures in long-term assets, such as manufacturing plants and specialised equipment. The need for a substantial quantity of money necessitates the

creation of a robust financial framework to facilitate expansion and creativity (Mikulic, 2023).

Furthermore, the success of the Pharmaceutical and Chemical industries relies on their ability to navigate stringent regulatory regimes. Adhering to quality control standards and closely following safety rules can result in substantial financial obligations. An optimal capital structure provides the flexibility to manage regulatory responsibilities while maintaining financial stability (Handini, 2023). Furthermore, the decisions taken regarding a company's financial structure significantly influence its risk profile and the specific problems related to the industry. Debt finance, while offering tax advantages, increases a company's financial vulnerability. However, relying solely on stock finance can limit growth possibilities and diminish owners' profits. An optimal capital structure allows a firm to take advantage of debt and equity, optimising financial returns while maintaining a healthy balance sheet (Anita, 2023; Dawar, 2014; Jang, 2011). Bangladesh, situated in South Asia, has witnessed significant economic advancement in recent years. The Pharmaceutical and Chemical sectors have been at the forefront of this advancement, experiencing rapid growth and attracting international investment. However, the scholarly literature has not thoroughly investigated the capital structure of publicly traded enterprises in Bangladesh.

This study aims to address this gap by investigating the context of Bangladesh. Acquiring a thorough comprehension of the factors that influence the choices regarding capital structure in this emerging market can provide valuable insights for domestic and international investors. Furthermore, it can contribute to the progress of financial regulations and policies that facilitate the sustained development of these crucial businesses. Several elements in the context of Bangladesh necessitate a focused research concentration. Furthermore, the regulatory system in Bangladesh is now undergoing modifications. The latest revisions, aimed at promoting foreign investment and improving transparency, may potentially impact listed companies' choices regarding their capital structure. The study's findings may be subject to varying degrees of subjectivity due to its reliance on company data. The absence of crucial details, such as interviews with the CEO, hindered a comprehensive understanding of the capital structure and the decision-making processes associated with funding. If original data had been available, a more

comprehensive examination of companies' capital structure practices may have been conducted.

3. Objectives of the study

This research investigates the key determinants shaping the capital structure of listed pharmaceutical and chemical companies in Bangladesh which attempts to analyse the influence of various financial characteristics on the leverage ratios. The specific objectives of this study are:

- To quantify the impact of instabilities in profitability on the capital structure.
- To assess the relationship between changes in liquidity and the leverage ratios.
- To examine how the tangibility of a firm's asset affects its capital structure decisions.
- To analyse the role of firm size in determining the capital structure.
- To explore the influence of a firm's growth on its capital structure decisions.

4. Literature Review

The study is supported by a variety of capital structure theories. The Pecking Order Theory (POT) by Myers (1984) suggests firms prioritise internal funds (retained earnings) followed by debt and, lastly, new equity due to information asymmetry and agency costs. Profitable firms with higher retained earnings are expected to rely less on debt financing (Ahmed et al., 2023). The trade-off Theory (TOT) by Modigliani & Miller (1958) suggests a relationship between asset tangibility and debt financing. Firms with higher fixed assets (tangibility) can secure debt more readily due to the collateral value they offer. However, due to imperfect information and legal environments, Omet et al. (2015) found a negative relationship between tangibility and debt ratio in developing economies. Firm size is another factor influencing capital structure. According to (Rajan & Zingales, 1995), larger firms have easier access to capital markets and lower information asymmetry, leading to a higher debt capacity. However, Al-Qaisi & Shubita (2013) suggest

diseconomies of scale in debt usage for larger firms, potentially leading them to rely more on equity. Liquidity, measured by the current ratio, reflects a firm's ability to meet short-term obligations. Harris & Raviv (1988) posit that firms with higher liquidity may rely less on debt financing. However, Ahmed et al. (2023) found a positive relationship between liquidity and debt in Bangladesh, potentially reflecting a preference for short-term debt. Growth prospects also influence capital structure. Firms with high growth opportunities might prefer debt financing due to its tax advantages and lower dilution of ownership (Harris & Raviv, 1988). Arnold et al. (2019) published a study on capital structure, arguing that organisations finance their assets by amalgamating equity, debt, and mixed securities. The researcher further explained that companies frequently implement the Modigliani & Miler approach to facilitate capital financing.

Based on previous capital structuring theories, Ghosh et al. (2016) developed a study on the irrelevancy theory of capital structuring, stating that the organisation must have an impact on the payment of dividends on the stock price based on its deceleration. Accuracy of the irrelevancy theory refers to the fact that dividends do not add value to the corporation's stock price. Further, Lee et al. (2015) argued the static trade-off theory, assessing that this theory refers to the firm's capital structure. Lee elaborated that the static trade-off theory balances the financial distress costs considering the tax shield benefit for the organisation. Using the static trade-off theory, the combination of equity and debt collaboratively develops the optimal capital structure of a particular business organisation. Modigliani & Miler developed capital structure theory in 1958 to identify different facts and strategies to ease capital structuring activities. Artikis & Nifora (2012) worked on Modigliani & Miler's theory, arguing that the MM theory states that the organisation's capital structure is not a factor in value. The future earnings of present value determine the value of the market. It has been influential since the development of Modigliani & Miler's theory of capital structure. Based on the documentation and arguments of all previous capital structure theories, several researchers (Rajan & Zingales, 1995; Ross, 1977; Shyam-Sunder & Myers, 1999) developed an argument on the Pecking order theory addressing that this theory organisation needs to prefer first the finance of the organisation through

the retained earnings. Their argument also suggests that companies can finance themselves through debt if the source of finance is unavailable in the market. Forbes-Pitt (2011) contended on the agency theory of capital structure and argues about how this agency theory assists organisations in resolving disputes and relationships in business organisations. It has also been argued that whenever the aim of the organisation's owners and managers contradicts, agency problem arises. This distinctive theory explains the issues of relationship dispute tactics in business organisations. In modern business situations, this agency theory of capital structure is used for communication and dispute resolution between executives, shareholders, principals, and agents of that organisation. This theory assists the organisational executive's fir pecking orders and resolute corporate financial conditions between corporations.

According to Campello & Giambona (2013), the capital structure indicates the combination of equity and debt of a particular business organisation that finances over time. The same researchers elaborated that capital may be sources for common stock, retained earnings, preferred stock, bonds, and loans. In this study, capital structure is the dependent variable, whereas firm size, growth, profitability, tangibility, and liquidity are the independent variables. Irrelevancy Theory, Pricing order theory, Static Trade-off Theory, Miler & Modigliani Theory, and agency order theory are the core concepts of this paper. The study on determinants of capital structure will undoubtedly assist organisations in overlooking the importance of capital structure. This paper has been developed to emphasise capital structuring techniques and theories in modern business organisations worldwide. The theories of the capital structure described in this report will ease the capital structuring process compared to the prior strategies (Bierman, 2001). Overall discussion and capital structure theories in the study will designate the phenomena, concepts, and issues focusing on the framework of capital sourcing.

5. Hypothesis development

Profitability and Leverage

According to the principle of pecking order, a negative relation exists between debt ratio and profitability as there is a preference for internal finance concerning foreign funds. Whereas, according to the principle of

trade-offs, higher debt levels should be chosen for use as a potential tax shield (Arnold et al., 2019; DeAngelo & Masulis, 1980; Frank & Goyal, 2003; A. Ghosh, 2017; Rajan & Zingales, 1995). Therefore, the following hypothesis has been proposed:

H₁: A significant relationship exists between profitability (ROA) and leverage.

Liquidity and Leverage

Jensen (1986) argues that companies with high liquidity should issue more debt to avoid free cash flow which indicates that liquidity and leverage have a significant positive relationship. On the other hand, the pecking order theory suggests a negative relationship between liquidity and leverage because firms with high liquidity will borrow less. Managers can manipulate liquid assets in favour of shareholders against the interest of debt holders, increasing the agency cost of debt (Ahmed et al., 2023; Booth et al., 2001; Bradley et al., 1984; Omet et al., 2015). Thus, the following hypothesis has been developed:

H₂: A significant relationship exists between liquidity and leverage.

Tangibility and Leverage

Fixed assets are considered to function as collateral. Therefore, higher tangibility decreases the risk of a borrower suffering from the agency's debt costs, according to agency cost theories (trade-off theory). On the other hand, the pecking order theory suggests the reverse, as companies with more fixed assets are less inclined towards asymmetric data. They, thus, issue less debt (Abor, 2007; Ahmed et al., 2023; Bas et al., 2009; Harris & Raviv, 1988; Sheikh & Wang, 2011; Titman & Wessels, 1988). Reviewing the literature, the hypothesis below has been developed:

H₃: A significant relationship exists between tangibility and leverage.

Firm Size and Leverage

There is a lower chance of bankruptcy for larger companies, which are more diversified. Therefore, they will issue more debt, according to the principle of trade-offs, which indicates that leverage and company size have a favourable relationship. For big corporations, the data asymmetry is minor (Myers, 1977, 1984). The relationship should also be reversed,

according to pecking order theory. So, the following hypothesis has been proposed:

H₄: A significant relationship exists between firm size and leverage.

Firm Growth and Leverage

A negative debt ratio relationship is anticipated in the trade-off theory, as elevated leverage can challenge future development. Higher growth triggers the need for more funds, according to the pecking order principle, and so it is predicted that a company can borrow more (Asola, 2024; Banabo & Aganaba, 2024; Olorunlero, 2023). The following hypothesis has been formed based on the above literature:

H₅: A significant relationship exists between growth and leverage.

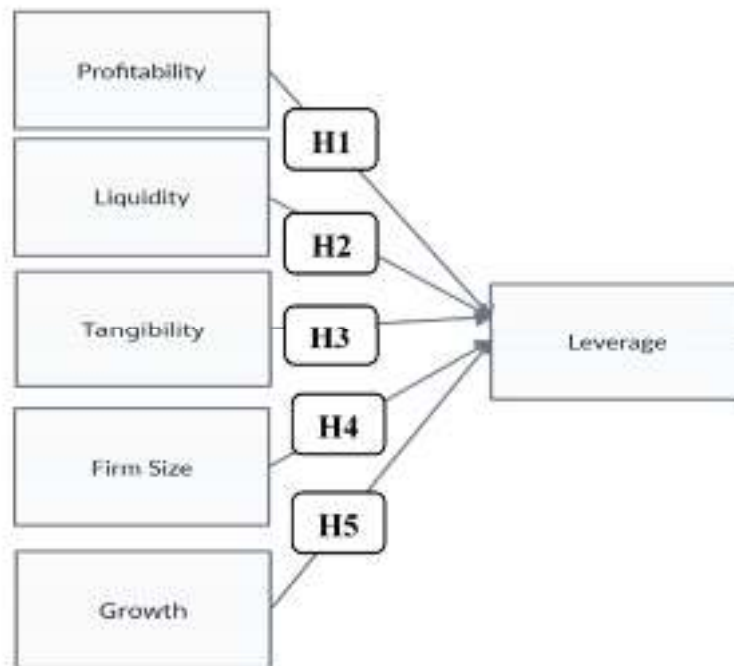


Figure 1: Conceptual Framework of the study

Figure 1 represents the study's conceptual framework, which shows that profitability, liquidity, tangibility, firm size, and growth influence the dependent variable leverage, which impacts capital structure.

6. Methodology of the Study

Sample Data

The study adopts an empirical approach to investigate the determinants of capital structure within the Pharmaceutical and Chemical sector, using the most recent available data. Employing a quantitative methodology, a multiple linear regression model is applied to assess financial data extracted from operating statements dating back at least ten years. These regression outputs are rigorously assessed based on underlying data and assumptions, with the resulting outcomes meticulously evaluated. The study employs well-established financial theories to identify the main determinants influencing the capital structure of Pharmaceutical and Chemical companies listed in Bangladesh. The Pecking Order Theory, Static Trade-off Theory, and Agency Theory will be used as a framework to analyse the relationships between various financial metrics and the debt-to-equity ratio of these organisations (Dawar, 2014; Kothari et al., 2023; Salim et al., 2012; Shinwari et al., 2023).

Moreover, a subset of thirty-three companies actively operating in the Pharmaceutical and Chemical sector between 2014 and 2023 is used. The data for this sample is derived from the financial statements of these companies. In addition, the analysis exclusively examines the internal factors that influence a company's capital structure, disregarding external macroeconomic factors such as inflation, GDP, and interest rates. These factors have a broader impact beyond individual businesses' control (Abor, 2007; Khan & Khan, 2012; Weill, 2008). Constraints are an inevitable component of any scientific research. This analysis highlights four main constraints: The time restrictions in Bangladesh may have hindered the inclusion of potential macroeconomic variables, which could have affected the determination of business funding compositions. The limited availability of secondary data restricted the scope of features that could be exclusively derived from financial statements.

The rationale behind this selection lies in the increasing and robust nature of the Pharmaceutical and Chemical industry within the Bangladeshi economy, coupled with the scarcity of literature addressing capital structure determinants within this specific sector. Furthermore, similarities in accounting standards, corporate governance, and corporate control across businesses within the sector justify their inclusion in the

study. Data collection relies on secondary sources, primarily audited financial statements, specifically balance sheets and income statements, with a requisite of at least ten years, from companies with established longevity in the economy.

Regression Model

The study analyses the five presented hypotheses to determine the determinants of the capital structure of listed Pharmaceutical and Chemical companies in Bangladesh. To achieve this objective, the researcher attempts to examine the impact of independent variables (i.e., profitability, liquidity, tangibility, firm size, firm growth) on the dependent variable, leverage (capital structure). Therefore, the study suggests assessing the following model,

$$LEV_{it} = \beta_0 + \beta_1 PROF_i + \beta_2 LIQ_i + \beta_3 TANG_i + \beta_4 SIZE_i + \beta_5 GWTH_i + \sum t_i + \varepsilon$$

Table 1 provides a detailed description of the variables, their related measurement methods, and relevant research.

Table 1: the definition, measurements, and theoretical relationships of the variables

Variable Type	Variable	Name of the Variable	Method of Measurement	Theoretical relationship of Dependent and Independent variables
Dependent Variables	LEV_{it}	Leverage (Capital structure)	The ratio of total debt to total asset	Trade-off theory (+) Pecking order theory (-)
Independent Variables	$PROF_i$	Profitability (ROA)	Net Income / Total asset	Trade-off theory (+) Pecking order theory (-)
	LIQ_i	Liquidity	The ratio of current asset to current liability	Trade-off theory (+) Pecking order theory (-)
	$TANG_i$	Tangibility	The ratio of net fixed assets to total asset	Trade-off theory (+) Pecking order theory (-)
	$SIZE_i$	Firm Size	Natural logarithm of total assets of respective companies	Trade-off theory (+) Pecking order theory (-) Agency Cost (-)
	$GWTH_i$	Growth	[Total asset (t) – Total asset(t-1)] / Total asset (t-1) = GROWTH	Trade-off theory (-) Pecking order theory (+) Agency Cost (-)
	t_i	Year Dummy		

Source: Prepared by the author.

7. Results & Analysis

This section describes the descriptive statistics, focusing on 330 observations that have been presented. This part included a correlation matrix, regression analysis, and descriptive data. Several factors have been identified as statistically significant in the correlation matrix, with several positive and significant correlations observed.

Descriptive Statistics

In this study, a total of 330 observations were analysed. The mean value of the dependent variable, leverage (capital structure), was 0.63, and the standard deviation was 0.18, with a minimum of -0.38 and a maximum of 1.97.

Table 2: Descriptive Statistics

Variable	Observations	Mean	Std. Dev.	Minimum	Maximum
LEV	330	0.63	0.18	-0.38	1.97
PROF	330	0.22	0.11	-0.18	0.67
LIQ	330	4.03	6.57	1.58	24.36
TANG	330	0.71	0.26	0.45	1.92
SIZE	330	23.21	4.18	12.26	27.89
GWTH	330	-11539.15	125404.8	-1373798	0.999

Source: Developed by the authors

In addition, table 2 reveals that the mean profitability is 22%, whereas the maximum is 67%. Liquidity has a maximum value of 24.36 with a minimum of 1.58. it has a mean value of 4.03, whereas the standard deviation is 6.57. Tangibility is obtained by fixed assets by total assets. The mean value is 71%, meaning almost 71% of firms' total assets consist of fixed assets on average. The factor ranged from 45% to 192%, with a standard deviation of 26%. Finally, the firm size (SIZE) ranges from 12.26 to 27.89, with a standard deviation of only 4.18. The growth is measured using annual changes in total assets. The firm's mean growth is about -11539.15, which is very unusual and can happen due to a technical mistake in the data file having a standard deviation of 125404.8, and the sample ranged from -1373798 to 0.999.

Correlation Matrix

The correlation matrix displayed below in Table 3 illustrates the relationships between several financial and structural variables in the examined dataset.

Table 3: Correlation Matrix

	LEV	PROF	LIQ	TANG	SIZE	GWTH
LEV	1					
PROF	0.1046	1				
LIQ	0.0426	0.5616	1			
TANG	0.0057	-0.1528	0.625	1		
SIZE	0.1765	0.0559	-0.0254	-0.0570	1	
GWTH	0.0650	0.0320	0.2468	-0.0891	0.2992	1

Source: Developed by the authors

The correlation analysis indicates a moderate positive relationship between Leverage (LEV) and Profitability (PROF), with a coefficient of 0.1046. Furthermore, a significant and positive correlation of 0.0426 exists between the liquidity variable (LIQ) and the leverage variable. The correlation coefficient between leverage and Firm Size (F) is 0.1765, showing a positive association that might be considered favourable. Furthermore, a positive correlation (0.065) between a company's growth and its leverage indicates a slight connection between these two elements. The correlation matrix offers a thorough overview of the linear connections between the financial and structural variables being studied. It serves as a basis for conducting regression analysis and gaining insights into relationships and interconnections within the dataset.

Regression analysis

Table 4 presents the regression analysis between the dependent variables and independent variables.

Table 4: Regression Analysis

Independent Variables	LEV	
	Coefficient	P-Value
PROF	0.8745	0.0015
LIQ	-0.0139	0.0033
TANG	-0.0636	0.4029
SIZE	0.0167	0.0064
GWTH	1.6815	0.3111
Y2023	0.1179	0.0001
Y2022	0.1169	0.0000
Y2021	0.0043	0.1100
Y2020	0.0048	0.0790
Y2019	0.0005	0.8470
Y2018	0.0045	0.1010
Y2017	0.0043	0.6782
Y2016	0.0008	0.8826
Y2015	0.0007	0.0926
Y2014	0.0013	0.0917
Constant	0.0990	0.0250

Significant level 5%.; Source: Developed by the authors.

This study examines the variables that impact a company's leverage (LEV) by using a multiple regression model illustrated in Table 4. Leverage, as determined by the debt-to-equity ratio, signifies the extent to which a company funds its activities with borrowed money. The model analyses the impact of profitability (PROF), liquidity (LIQ), tangibility (TANG), company size (SIZE), and growth (GWTH) on leverage. The findings demonstrate statistically significant correlations between leverage, profitability, liquidity, and firm size (p-value < 0.05). The coefficient of 0.8745, positive and statistically significant, indicates a robust and direct correlation between profitability and leverage. This implies that for every one-unit boost in profitability, there is a corresponding increase of around 0.8745 units in leverage, which is consistent with the pecking order theory, which suggests that financially successful companies are more inclined to utilise debt financing because of its tax benefits and the decreased likelihood of encountering financial difficulties. The coefficient of -0.0139, which is both negative and statistically significant with a p-value of 0.0033, suggests a clear inverse correlation between liquidity and leverage. This suggests that as the

availability of liquid assets reduces, the degree of financial leverage tends to rise. Companies with more easily convertible assets, known as liquidity, typically have less dependence on borrowing money to finance their operations. This may be because they have a reduced demand for external cash. The tangibility coefficient (-0.0636) is negatively oriented but lacks statistical significance (p -value = 0.4029). The coefficient indicates a negative correlation between tangibility and leverage but lacks statistical significance at customary thresholds ($p > 0.05$). This suggests that changes in tangibility may not consistently anticipate increases in leverage. This indicates a fragile or non-existent correlation between the percentage of fixed assets (tangibility) and leverage. The coefficient of 0.0167, which is both positive and statistically significant, demonstrates a clear and direct correlation between the size of a corporation and its level of leverage. These findings indicate that larger companies have a slightly more significant level of debt, with an increase of around 0.0167 units for every unit increase in company size. Moreover, this correlation is statistically significant. Big corporations may possess superior creditworthiness, which grants them more access to debt financing. The variable "Growth" had a coefficient of 1.6815 and a p -value of 0.3111. While the coefficient suggests a positive correlation between growth and leverage, the correlation is not statistically significant at the 0.05 level. This implies that changes in growth may not be a reliable predictor of changes in leverage in this model. The regression analysis identifies profitability, liquidity, and business size as the primary determinants of a company's leverage. Profitable and larger corporations typically exhibit greater leverage, whereas organisations with higher liquidity rely less on debt financing. It is crucial to acknowledge that this analysis serves as an initial reference, and additional investigation may be necessary to examine alternative factors that could impact leverage and include industry-specific elements. The findings confirm the first, second and fourth hypotheses (H_1, H_2 and H_4), demonstrating the favourable correlations between profitability, liquidity, and firm size with leverage.

Test of Heteroskedasticity problem

A chi-square test was conducted to assess the goodness-of-fit between the observed and expected data ($\chi^2 (1) = 8.63, p > \chi^2 = 0.0033$). The chi-

square statistic (χ^2) 8.63 indicated a moderate to substantial deviation from the expected distribution. This finding was further supported by the statistically significant p-value (0.0033), which suggests that the observed pattern is unlikely due to random chance and reflects an actual difference between the observed and expected data.

$$\begin{aligned}\text{chi2}(1) &= 8.63 \\ \text{Prob} > \text{chi2} &= 0.0033\end{aligned}$$

Test of Autocorrelation

To check whether there is any relationship among error terms. Both formal and graphical tests were adopted to verify it. No significant outliers were found in the graph. For the formal test, the Durbin-Watson test was used, and the result is given here:

$$\text{Durbin-Watson d-statistic (6,120)} = 1.126977$$

The D-Watson value is less than 2, meaning no autocorrelation exists among error terms.

8. Discussion on Findings

This research investigates the multifaceted nature of factors influencing a company's leverage structure, quantified by the debt-to-equity ratio. Multiple regression analysis is employed to elucidate the relationships between profitability (PROF), liquidity (LIQ), asset tangibility (TANG), firm size (SIZE), and growth (GWTH) with a company's leverage. The findings offer valuable insights into the interplay between these variables and inform corporate capital structure decisions. The results reveal a robust positive association between profitability (PROF) and leverage (coefficient = 0.8745, p-value = 0.0015), aligning with the pecking order theory. This theory posits that firms prioritise internal financing, debt, and external equity. When a company experiences high profitability, it refers to a more extensive earnings base, enabling it to exploit the tax benefits of debt financing. The positive coefficient indicates that a unit increase in profitability will lead to a one-unit increase in leverage. The highly statistically significant p-value further emphasises the strength of this relationship.

Conversely, the analysis reveals a negative and statistically significant relationship (coefficient = -0.0139, p-value = 0.0033) between liquidity

(LIQ) and leverage. Liquidity, measured in this study by the proportion of readily convertible assets, provides a financial cushion for companies. This readily available pool of resources allows them to meet short-term obligations, diminishing their dependence on external debt financing. The negative coefficient suggests that a unit increase in liquidity will lead to a slight decrease in leverage. The statistically significant p-value underlines the importance of liquidity in shaping a company's capital structure decisions.

Interestingly, the proportion of fixed assets (tangibility) does not exhibit a statistically significant relationship with leverage (coefficient = -0.0636, p-value = 0.4029). This finding deviates from some theoretical perspectives that suggest companies with a higher proportion of fixed assets might have more outstanding debt capacity due to the collateral value associated with these assets. However, the non-significant p-value indicates that the observed negative coefficient might result from chance or industry-specific dynamics. Further research might be necessary to explore the nuances of asset tangibility's influence on leverage across different sectors.

The analysis reveals a positive and statistically significant association (coefficient = 0.0167, p-value = 0.0064) between firm size (SIZE) and leverage. This finding can be attributed to economies of scale in the debt market. Larger companies with established records and significant financial resources often enjoy better creditworthiness. This transcribes easier access to debt financing and potentially more favourable loan terms from lenders who perceive them as lower-risk borrowers. The positive coefficient suggests that a unit increase in firm size will lead to a slight increase in leverage. The statistically significant p-value underscores the relevance of firm size in a company's leverage strategy. The relationship between growth (GWTH) and leverage presents a curious case. While the coefficient (1.6815) exhibits a positive trend, it lacks statistical significance (p-value = 0.3111). This implies that a potential link between growth aspirations and leverage might exist, but the current model does not provide a definitive answer. Companies aiming for high growth might require significant capital investments, potentially leading them to increase their debt burden. However, the non-significant p-value suggests that this association may be weak or absent in this specific context. Further research with a larger sample size or a

more refined measure of growth might be necessary to establish the nature of this relationship definitively. A summarised theoretical expectations and empirical findings are given below in Table 5.

Table 5. Theoretical expectations and empirical findings independent variables

Independent variables	Theoretical relationship			Empirical findings	Supporting Theory
	Tradeoff	Pecking Order	Agency Cost		
Profitability	+	-	?	-	Pecking order
Liquidity	+	-	?	-	Pecking order
Tangibility	+	-	+/-	-	Pecking order
Firm size	+	-	+	+	Trade-off
Growth	-	+	-	+	Pecking order

9. Conclusion

This study elucidates the intricate interaction of several factors that impact a company's leverage structure, measured by the debt-to-equity ratio. The results are consistent with well-established financial theory, demonstrating a significant positive correlation between profitability and leverage. This supports the observation that companies prioritise using their own funds for financing and then resort to borrowing, taking advantage of the tax benefits of debt to increase their earnings. Companies with a higher level of liquidity, which is determined by the ease with which their assets can be converted into cash, tend to rely less on borrowing money. This emphasises the need to have a substantial amount of cash available within the company. Although the share of fixed assets (tangibility) did not statistically affect leverage in this sample, further investigation could examine the specific dynamics within different industries. Industries that require a large amount of capital investment may show a more pronounced positive correlation, as the high value of fixed assets can be used as collateral. The size of a firm has been identified as a crucial factor since larger organisations have shown easier access to loans and more advantageous loan terms.

Nevertheless, the connection between ambitions for growth and leverage use is poorly understood. Although there was a positive trend, it did not have statistical significance, indicating a weak or non-existent link in this model. This study establishes the foundation for a more profound comprehension of corporate decisions about leverage. Future research could explore the impact of the structure of debt maturity. The ideal debt-to-equity ratio and the desired combination of short-term and long-term debt financing can differ based on the specific conditions of a company. Furthermore, it is essential to thoroughly examine the financial consequences of leveraging decisions. Understanding how leverage affects a company's performance during economic changes would offer significant information for financial strategists.

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Declaration of Interests

I, the author of this research manuscript, declare that we have no financial interest. We have provided written consent to publish the paper in this journal.

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