Accountancy Business and the Public Interest
ISSN: 1745-7718

Special Issue
Theme 1 June 2024

FACTORS IMPACTING LEVERAGE AND PROFITABILITY IN FIRMS

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Abstract

The research study evaluates the impact of various variables, such as profitability, bankruptcy costs, tangibility, and managerial ownership, on a company's capital structure. Moreover, its objective is to assess the influence of (ESG Score) sustainable initiatives and corporate governance on the firm's profitability and capital structure. According to the study, there is a positive relationship between tangible assets that a firm has and the leverage levels of firms. At the same time, the higher bankruptcy costs lead to a lower level of debt. Furthermore, it suggests that Return on Equity (ROE) positively impacts the Return on Assets (ROA), while debt negatively impacts the ROE. Data for the study was collected in 2 parts. In the first part for identifying the factors impacting the capital structure the data was collected through the 5-point likert scale and for the analysis of the impact of various factors on capital structure, data was collected from Bloomberg for the period 2019-2022. The principal component analysis was used to identify the factors impacting the capital structure and the dynamic panel random effects model was used to identify the impact of various factors on the leverage and capital structure of the firm. The study substantiates that the inclusion of female independent directors on the board of management leads to enhanced earnings per share (EPS). Additionally, the research study validates that sustainable ESG (Environment, Society, and Governance) initiatives positively impact a firm's profitability. Conversely, it validates the negative impact of the debt on the profitability of the firm.

Keywords: Capital structure, Corporate Governance, ESG

INTRODUCTION

The intersection of corporate governance and capital structure plays a significant role in shaping the profitability of firms. While it is a captivating research domain, the existing body of research in this area remains relatively limited. Corporate governance, encompassing aspects such as profitability, transparency, accountability, and ethical conduct, is often correlated with enhanced firm performance. The agency theory posits that robust corporate governance practices within a firm can foster improved risk management and decision-making processes. However, empirical studies have yielded scant evidence regarding the direct link between corporate governance practices and profitability. In recent times, the focus within corporate governance has expanded to encompass the impact of women directors and independent directors on firm profitability. The influence of women independent directors on a firm's profitability has emerged as a topic of growing interest and research within the realms of corporate governance and management. This evolving discourse underscores the dynamic nature and burgeoning importance of corporate governance practices and strategy in shaping the financial success and sustainability of organizations. Various studies indicate that diverse boards including gender diversity can positively impact the firm's profitability. Further, women independent directors bring varied perspectives experiences, and expertise to the board discussion, leading to better decision-making and financial outcomes and performance. By better risk management and stakeholder representation, women independent directors can further enhance governance practices. Moreover, regulatory bodies and corporate governance guidelines promote higher gender diversity. Various studies propagate that complying with ethical governance practices can positively impact the profitability of a firm. This study aims to understand the nuanced relationship between gender diversity in boardrooms and firm performance. Certainly, the intersection of corporate governance, capital structure, and firm profitability is a compelling area of study with significant implications for business strategy

and performance. The impact of corporate governance on firm profitability is complex and multifaceted, encompassing various dimensions such as transparency, accountability, and ethical behavior. However, the existing research landscape indicates a relative scarcity of comprehensive studies in this field, signifying the need for further exploration and analysis. The theories of capital structure are instrumental in understanding how different factors influence a firm's decision-making regarding its financing choices. It is extremely important to understand the complex interplay between firm-specific factors and leverage. The capital structure of a firm comprises of the optimal mix of debt and equity, which are used for financing the business operations. The higher level of debt in the firm leads to additional risk and interest obligation that can deteriorate the profitability of the firm. The existing academic research has not provided much evidence on the impact of corporate governance and capital structure on the profitability of the business firm. This research study aims to provide empirical evidence of the impact of corporate governance and capital structure on the profitability of the firm.

LITERATURE REVIEW

(Cochrane, 2001) in the markets as per the research studies, the rationale investors have information about their risk type and try to maximize their utility by maximizing their consumption today and returns from investment made by sacrificing the consumption. In the presence of capital markets, the investors borrow and lend money to maximize their utility from investment and consumption respectively subject to their risk aversion. The market provides the return or risk premium for assuming the risk or for the higher level of dispersion in the expected returns or utility of the investors. Thus, markets provide a panacea for maximizing the utility and there is a rational determination of the cost of capital in the form of interest, which is the price for sacrificing consumption today for consumption tomorrow. The Capital structure decision is the most important decision for the firm. In the seminal paper (Miller, 1988) highlights that the structure of capital does not affect the overall cost of capital, and the cost of capital is only affected by the business risk**.** The overall cost of capital and the EBIT (Earnings Before Interest and Tax) of the firm are constant and due to the constant cost of capital value of the firm is constant. The value invariance theory given by Modigliani and Miller states that the market value of the firm is independent of capital structure and is given by capitalizing its expected return at the rate ρ appropriate to its risk. The MM II Model by Modigliani and Miller principle states that debt is a cheaper source of finance due to the tax shield and the cost of equity is greater than the cost of debt. The study further highlights that the cost of debt increases the risk, and due to this the cost of capital also increases, hence despite the low cost of debt, due to the risk of bankruptcy the firms will be vary to keep 100% debt in the capital structure. The arbitrage process explains the reason for the constant value of the firm. If the value of the levered firm is greater than the unlevered firm, it will lead to arbitrage. The investors will sell the shares in high-valued firms and purchase the shares in low-valued firms. Thus, the sum of the parts must equal the whole, irrespective of the financial mix, and thus the total value of the firm remains the same, (Modigliani & Miller, 1958). However the Modigliani-Miller model is subject to various assumptions such as the capital markets are perfect, there are no taxes, no bankruptcy costs, and no information asymmetry in the capital markets. MM (Miller) theory is the most cited and highly acknowledged theory of capital structure in the domain of corporate finance and capital structure. After Modigliani Miller, many research studies challenged the assumption of this model. In a further research study (Stiglitz, 1969) the author criticizes the Modigliani-Miller approach to the value invariance model highlight that bankruptcy costs exist in the real-world scenario, due to which firms are not willing to use debt in capital structure. The individuals are unable to borrow at the same

rate of interest as the firms and companies. However, through the diversification of the portfolio and combining the risky assets and risk-free assets, the investors will be able to maximize the returns given a certain level of risk. (Miller, 1977)in his research paper has highlighted that taxes form an important cost component for the capital structure. As tax rates differ for individuals and companies, the debt is a cheap source for certain investors and costly for others. Due to differences in tax rates, capital structure will be an important factor in determining the cost of capital. Various strands of literature highlight that debt is a cheaper source of finance and thus rationally, the firm should be willing to introduce more and more debt in the capital structure. If a firm introduces debt into the capital structure, the risk increases and to compensate for that risk the equity holders demand more return. According to (Stiglitz, 1969), the incorporation of debt into the capital structure is associated with a heightened likelihood of bankruptcy. Thus, the cost of bankruptcy increases the cost of capital and thus reduces the attractiveness of the debt as the source of capital. Furthermore, the paper emphasizes that investors will demand a risk premium because they are rational enough to invest in debt, which carries a greater likelihood of insolvency. This risk premium will then be utilized to calculate the certainty equivalent. This risk premium will be calculated using the covariance among the various returns. , further investigates the impact of the type of legal framework and institutions on the capital structure of the firm. The research study highlights that nations with well-developed legal institutions and frameworks have a higher preference for debt in the capital structure. The research study further highlights those states with better bankruptcy laws, creditors rights, weaker protection of shareholder's rights, disclosure, and liability will have higher leverage in the capital structure. The research study highlights that the capital structure in any corporate firm is a trade-off between the benefits of debt and the costs of debt. (Jensen & Meckling, 1976) highlights that in a corporation there exists a conflict of interest between the principal who is the shareholder and the agent who is the manager. There exists a conflict between the interests of the shareholder and the manager. The paper propagates that if a wholly owned firm is managed by the owner, he will make operating decisions that maximize his utility. The inclusion of outside equity will generate agency costs due to divergence of interests since the principal will then bear only a fraction of the costs of any non-pecuniary benefits, he takes out in maximizing his utility. Further, the paper highlights that the manager can be given stakes in the company to incentivize them to work in the best interest of the shareholders. The manager will seek to maximize his utility by availing of the nonpecuniary perquisites which he will achieve by selling the stake in the company to outsiders. The paper highlights the presence of the agency problem in the firm. Managers have control over the decision making but they have incentive to enjoy the non-pecuniary benefits by giving up an equity stake in the firm. This leads to higher agency costs in the form of higher monitoring costs. Thus, financial contracting helps in reducing the problem of agency posed by the manager. The manager will aim to maximize the non-pecuniary benefits. This paper (Jensen & Meckling, 1976) highlights that there is a conflict between the interests of the shareholders and the bondholders. Managers can invest less effort in managing resources and can transfer firm resources for personal benefit and increasing the fraction of the firm financed by debt increases the manager's share of equity and mitigates the loss of conflict between manager and shareholder. Similarly, there exists a conflict between the shareholder and the debtholder and the shareholder has an incentive to invest in the risky debt. Investments in risky projects lead to a decrease in the value of debt. Thus, there exists a trade-off between the benefit of the debt and the cost of the debt. As per (Jensen & Meckling, 1976) the agency cost is the asset substitution. (Harris and Raviv 1976, n.d.) in their paper highlight that the debt is the signal of the financial health of the firm. The safe firms have higher debt in their capital structure and debt is a signal that the firm is safe. (Myers & Majiuf, 1981), emphasize that investors have less information about the project, so

equity will be mispriced. The mispricing of the equity due to less information by the investors leads to new shareholders getting higher value as compared to the old shareholders. The manager of the firm will always try to protect the old shareholders. (Myers n Majluf, 1984) highlight the importance of the pecking order theory and emphasize that for implementing a project, the firm will first prefer internal funds or retained earnings, then debt, and then equity for financing the project. Thus, this research study highlights situations in which the positive NPV (Net Present Value) projects will be left on the table. (Akerlof, n.d.) highlights that the presence of inferior quality products in the market leads to deterioration of the market and further leads to agency costs. Due to the information asymmetry and presence of the agency problem, good-quality products will be sold below their equilibrium price. (Myers n Majluf, 1984) highlight that in a firm there exists a conflict between the interests of the old & new shareholders which gives rise to the agency problem. The manager will try to maximize the interests of the old shareholders and hence many positive NPV projects will be left on the table. (Fama & Jensen, 1983) highlight that the presence of the agency problem and information asymmetry, the decision control and decision management are not separated in a non-complex organization but in a complex organization, both the decision management and decision control are separated. (Lambert et al., 2011) highlight that in imperfect capital markets, information asymmetry and average information precision have an impact on the cost of capital of the firm. (Baker & Wurgler, n.d.) highlights that market timing plays a significant role in deciding about the capital structure decision. Similarly, the other research studies argue that the firms rebalance their capital structure based on various factors such as inflation, earlier IPO and debt issue, the financial performance of the firm, earlier increase or decrease in debt or leverage, depreciation, corporate taxes, retained earnings on the capital structure rebalancing by the firms, (Leary & Roberts, 2005). As per Modigliani & Miller capital structure of the firm is relevant to the value of the firm. And the expropriations cannot always be neutralized by investors on personal account. Even though maximizing stockholder and bondholder wealth may be more economically efficient, Stiglitz believes corporations would maximize stockholder wealth giving rise to the agency problem. The value invariance or the capital structure irrelevance theory is subject to various assumptions like perfect information, no taxes, no bankruptcy, and no transaction costs as per the Modigliani and Miller framework. However, numerous scholars, including Frank Milne, emphasize the significance of the first rule and the role that differences such as security holders' claims and rights play in determining the capital structure. A multitude of determinants influence a company's capital structure or financing determination. (Frank & Goyal, 2009) highlight that key determinants of leverage in a corporate firm are industry leverage, market-to-book assets ratio, tangibility, profits, firm size, and inflation, (Rajan & Zingales,1998). (Fama et al. 2012) highlight how institutional characteristics influence capital structure and debt maturity choices in 39 developed and developing economies. (Öztekin, 2015), posits that the rate at which an average firm modifies its leverage in a country with superior institutions is primarily determined by legal and financial institutions. The countries with improved bankruptcy outcomes strengthened protections for creditors and adequate enforcement of contracts and laws, adequate standards of accounting, disclosure, liability, and enforcement have firms with higher leverage. The paper posits that macroeconomic variables, including firm size, inflation, and tax shield impact the leverage of the firm. As per the literature, the market-to-book ratio of a firm negatively impacts the leverage of a firm and this negative relationship is driven by the growth opportunities. The literature highlights, that the institutional characteristics or firm characteristics could impact the capital structure. The institutional environment also impacts the speed of adjustment. The firm size also impacts the leverage, as the smaller firm finds it more expensive to issue debt. The research study highlights that country characteristics such as property rights and enforcement reduce agency costs and,

consequently, the cost of external financing leading to higher leverage in the firm. Moreover, as per the literature firms with higher shareholder protection have lower leverage and more equity. The other country-level factors impacting leverage are the presence of strong institutions, a more efficient legal contracting framework, bankruptcy law, and procedures impacting the resolution of financial distress. Thus, the firms in nations with stronger bankruptcy processes, and legal frameworks have higher debt or leverage. And similarly, firms in nations with stronger credit protection rights, and higher tax shields have higher debt as compared to the nations with weaker credit protection rights and lower tax shields. (Arrow & Debru) highlight that securities can be combined with risk-free and pricing can be done for portfolios in a complete market. Thus, the factors that impact the capital structure can be classified as follows:

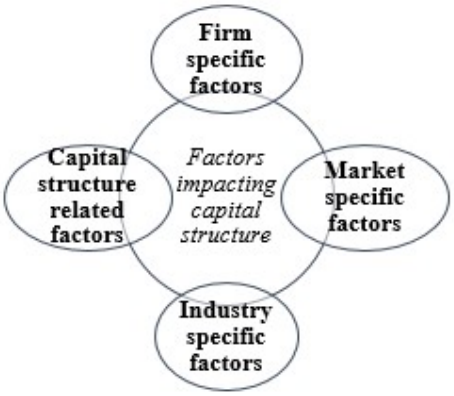

Figure 1: Factors impacting the capital structure

As per the literature, the factors impacting the capital mix of the firm can be classified as corporate governance, firm characteristics, and industry characteristics. Corporate Governance characteristics comprise factors such as board size, corporate regulations, directorship, rights of shareholders, financial reporting, auditors, disclosure, and information sharing and several Annual General Meetings conducted. Firm characteristics comprise the tangibility of assets, firm size, profitability, liquidity, and growth decisions. The industry characteristics that impact the capital structure decision include the nature of business risks, changes in the market interest rates, corporate taxes, investment opportunities, stock price volatility, and the nature of the industry. These various factors such as corporate governance, firm characteristics, and industry characteristics influence the capital mix of the firm. The capital structure comprises debt and equity. Debt comprises the bonds and the preference share capital. The equity capital comprises the retained earnings and the equity share capital of the firm. No theory measures the impact of ethical governance on the capital mix of the firm. This study aims to measure the impact of various factors on the capital structure of the firms. Corporate governance includes factors such as the recognition of the rights of the shareholders, board size and composition, observance of corporate laws, and regulations, presence of independent directors, protection for the shareholder's rights, preparation of timely financial rights, appointment of auditors, provision of timely information, conducting regular annual general meeting, the appointment of a female member on board. This study aims to measure the impact of corporate governance on the capital structure decision. The indirect impact of corporate governance on capital structure is mediated through the firm characteristics such as profitability, tangibility, size, liquidity, agency costs, and stock price volatility and the industry characteristics such as growth opportunities, tax rates, investment opportunities, and the nature of industry on the capital structure decision of the firm.

THEORETICAL STRUCTURE

Pecking Order Theory: In this research study, the basic argument is to support the pecking order theory, which propounds that the firms finance their investments first from internal or retained earnings, then from debt, and lastly from equity which also includes outsiders' equity. In the pecking order, higher adverse selection costs result in more debt. And equity is the last preference for financing investment opportunities. Signaling Theory: According to (Ross, 1977) signaling theory, the manager of the firm possesses insider information that is not available to the shareholders. Thus, the manager's access to private information about the firm impacts their capital decisions. The managers of an undervalued firm will probably issue more leverage and managers of an overvalued firm will issue more equity. Further, there is a lack of a structural theory regarding what factors lead to changes in the capital structure of the firm, whether it is corporate governance issues, industry-related factors, or the market factors within the corporation that impact the capital structure in a corporate firm. The structural model takes into consideration various factors to measure the impact of corporate governance on the capital structure. These factors include number of board meetings, composition of the board of directors, independence of the board of directors, risk management practices, transparency, and disclosure made by the banks.

DATA AND METHOD

In the study, a 2-pronged approach is utilized to investigate the factors influencing the firm's capital structure. The first part involves the use of a 7-scale Likert-based questionnaire to collect data on these factors. Out of 101 distributed questionnaires, 89 usable responses were obtained after omitting 12 due to missing data. The respondents were guaranteed confidentiality and anonymity. Convenient sampling was employed to collect data from Chief Executive Officers (CEOs) of small companies across India. Furthermore, the majority of questionnaire constructs were adapted from existing studies to ensure comprehensive coverage

a. The rights of shareholders are recognized by your firm
b. Board Size and composition influence leverage decisions
c. Corporate laws and regulations are observed by your firm
d. Independent directors are on board (at least 10%)
e. The rights of stakeholders are protected by law
f. The rights of stakeholders are protected by law
g. Firm can freely appoint auditors
h. Firm makes adequate disclosures of information to stakeholders
i. Firm conducts regular annual general meetings
j. Firm has female board participation
k. Firm issues equity as the preferred source of capital
l. The firm issues the bond/debenture/Long-term loan
m. The firm issues preferred stock (redeemable/Perpetual)
n. Firm prefers Retained Earnings/Internal equity financing as the source of funds
o. Profitable firms have higher leverage

p. Firms with higher growth opportunities have higher leverage
q. Firms with higher tangible assets have higher leverage
r. Interest rates impact the leverage decision
s. Corporate tax rates impact the leverage decision
t. Business risks impact the leverage decisions Agency cost impacts the leverage decision
u. Firm liquidity impacts leverage decision
v. Investment opportunities impact leverage decision
w. Firm size impact leverage decision
x. Nature of the industry impacts leverage decision
y. Stock price volatility influences leverage decision

Further, the factor analysis is used to identify the factors impacting the capital structure of the corporation. For the second part of the study, the data for analysis was collected from the Bloomberg database and data was collected for 3 periods 2020 to 2022 for 50 listed firms in NYSE. In this study, I have used the dynamic panel method to analyze the impact of various factors on the capital structure and profitability of the firm.

EMPIRICAL MODEL

In this model, we seek to determine the impact of the firm characteristics such as tangibility of assets, return on assets, return on equity, esg score, EPS, and net income on the capital structure of the firms has an impact on the profitability and the capital structure of the firm.

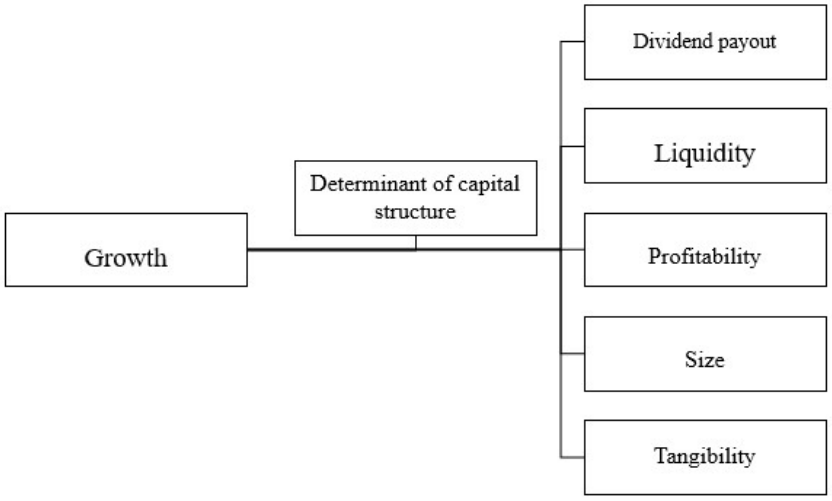

Figure 2: Factors impacting the capital mix of a firm

Capital Structure: In the data analysis, the capital mix comprises debt, equity & retained earnings. The debt of the firm is represented by the ratio of debt to equity, equity is represented by the market capitalization, and preference share capital is represented by the preference share capital.

Factors affecting capital structure (Leverage) - The pecking order theory refers to the organizational preference for different sources of finance while organizations are sourcing

funds for investment. It implies that organizations prefer internal financing initially, then debt, and followed by equity. The premise of this theory is that in comparison to internal financing, external financing (debt and equity) entails greater agency costs. The first major premise of our study is the existence of a significant relationship between the leverage and profitability of the firm. The relationship between firm profitability and leverage, as discussed in the literature by (Rajan & Zingales, 1998), (Supanvanij & Strauss, 2010), (Sayilgan & Yildirim, 2009), an (Ahmed Sheikh & Wang, 2011) is the theoretical lens for building the premise of this research study. According to the pecking order theory, there is a negative relationship between profitability and the level of leverage of the firm. It posits that firms prefer internal financing due to lower information asymmetry and agency costs, (Rajan & Zingales, 1998). In contrast to the pecking order theory, the trade-off theory proposes a positive relationship between profitability and leverage. It suggests that firms aim to balance the tax advantages of debt with the costs of financial distress. Due to the higher costs and risk involved in deploying debt, there is a negative relation between the profitability and the leverage of the firm. On the contrary (Supanvanij, Janikan & Jack, 2006; Sayilgan, & Yildirim, 2009; Sheikh & Wang, 2011) found that profitability is not relevant in determining the capital structure of the firms. Like the trade-off theory, the signaling theory, and agency cost theory also propagate a positive relationship between profitability and leverage. Our study further aims to investigate the relationship between tangibility, growth, and firm size to name a few. The literature further propagates that there is a negative relationship between the tangible assets and debt in the capital structure of the firm, (Sheikh & Wang, 2011 and Sayilgan & Yildirim, 2009). (Harris and Raviv, 1991) propagated that the leverage increases with fixed assets, growth opportunities, firm size, and profitability

Hypothesis development

Hypothesis 1a: Tangible assets directly affect the market capitalization of a firm.

Hypothesis 1b: Tangible assets directly affect the debt of a firm.

Hypothesis 1c: Tangible assets directly affect the preference share capital of a firm.

Hypothesis 2a: Bankruptcy significantly influences the leverage of a firm.

Hypothesis 2b: Bankruptcy significantly influences the market capital of the firm

Hypothesis 2c: Bankruptcy significantly influences the economic performance of the firm

Hypothesis 3a: Liquidity has a direct impact on the market capitalization of a firm.

Hypothesis 3b: Liquidity has a direct impact on the debt of a firm

Hypothesis 3c: Liquidity has a direct impact on the income of a firm

Hypothesis 4a: Managerial ownership directly impacts the market capitalization of a firm.

Hypothesis 4b: Managerial ownership directly impacts the market leverage of a firm.

Hypothesis 4c: Managerial ownership directly impacts the income of a firm.

Hypothesis 5a: ESG (Environment, Society, and Governance) scores positively impact the market capital of the firm

Hypothesis 5b: ESG (Environment, Society, and Governance) scores positively impact on the debt of the firm

Hypothesis 5c: ESG (Environment, Society, and Governance) scores positively impact on the income of the firm

Hypothesis 6: ROA (Profitability) directly impacts the ROE of the firms

Hypothesis 7: SDG directly impacts the ROA & ROE of the firm

Hypothesis 8: Bankruptcy costs directly impact the ROA & ROE of the firm

Hypothesis 9: Income directly impacts the ROA & ROE of the firm

Hypothesis 10: Female directors directly impact the ROA & ROE of firm

Hypothesis 11: Independent directors directly impact the ROA & ROE of a firm

Hypothesis 12: Profitability significantly impacts the leverage of the firm

DATA ANALYSIS AND DISCUSSION

A factor analysis was conducted to validate a theoretical model, revealing that three key factors - firm and industry characteristics, corporate governance, and existing capital structure - significantly impact the firm's performance. These results provide essential insights into optimizing these factors for enhanced organizational success.

Table 1: Factors impacting capital structure

	Firm & Industry	Corporate Governance	Capital structure
Changes in market interest	0.800		
Nature of industry	0.799		
Tangibility of asset	0.798		
Corporate tax	0.782		
Liquidity	0.770		
Investment Opportunity	0.759		
Stock price volatility	0.757		
Growth opportunity	0.750		
Agency cost	0.743		
Firm size	0.738		
Business risk	0.729		
Profitability	0.709		
Female board		0.825	
Financial report		0.821	
Observation of corporate laws		0.815	
Information symmetry		0.809	
AGM		0.804	
Protection of shareholders		0.804	
Board size		0.794	
Independent directors >10		0.785	
Recognition of shareholders		0.780	
Auditor		0.759	
Issue of common stock equity			0.826
Retained earnings			0.819
Bond issue			0.819
Preference share issue			0.805

Note 1- strongly disagree and 7 strongly agree

In the second part of the study, the data collected from Bloomberg was used for the analysis. In order, to empirically validate the pecking order and trade-off theory, the data is taken from Bloomberg and regression analysis is conducted to establish the impact of leverage on the profitability of the firms.

Log Market Capitalization$_{it}$ = α_{it} + β_{it}. Asset + β_{it}. Managerial ownership + β_{it}. Growth + β_{it}. log income + β_{it}. preference share capital + β_{it}. debt + β_{it}.ESG + β_{it}. ROA+ β_{it}. ROE + β_{it}. Board meeting + β_{it}. Liquidity + β_{it}. Altman z score

Log debt$_{it}$ = α_{it} + β_{it}. Asset + β_{it}. Managerial ownership + β_{it}. Growth + β_{it}. log income + β_{it}. preference share capital + β_{it}. debt + β_{it}.ESG + β_{it}. ROA+ β_{it}. ROE + β_{it}. Board meeting + β_{it}. liquidity + β_{it}. altman z score

log preference share capital = α_{it} + β_{it}. Asset + β_{it}. Managerial ownership + β_{it}. Growth + β_{it}. log income + β_{it}. preference share capital + β_{it}. debt + β_{it}.ESG + β_{it}. ROA+ β_{it}. ROE + β_{it}. Board meeting + β_{it}. liquidity + β_{it}. altman z score

Table 2: Factors Impacting Capital Structure

	log mcap	log debt	log pref
log asset	0.865***	1.088***	2.11***
managerial ownership	0.271	0.127	-1.17
Growth	0.005	0.003	0.001
log income	0.038	-0.078	-0.347***
logpref	0.010	-0.000	
log debt	0.057		-0.196
log mcap		-0.011	-0.315
Esg	-0.027	0.041	0.609***
Roa	-0.017	-0.041	0.166***
Roe	0.021	0.009	-0.132***
board meeting	-0.547***	-0.361**	-0.332
liquidity	0.118	0.257**	0.439
altman z score	0.130***	-0.015	-0.042
Constant	1.15	-1.042	-10.62***
Rho	0.593	0.716	0.931

The analysis presented in Table 1 delves into factors influencing a firm's capital structure. Firstly, the study aims to investigate the impact of bankruptcy on capital-sourcing decisions. As per the results, a higher likelihood of bankruptcy is linked with decreased debt levels, although not conclusively significant. The firms with higher Altman Z scores exhibit less debt propensity, validating the study's hypothesis. The value of tangible assets has a positive impact on the level of debt taken by the firm and the income has a negative relationship with the level of debt taken by the firm. Income positively affects market capital but shows a negative, inconclusive impact on debt and preference share capital. The negative debt-income relationship suggests a risk-return trade-off. Debt typically lowers income, whereas tangible assets enable access to higher debt, equity, and preference share capital. This aligns with the pecking order theory, (Myers & Majluf, 1984; Shyam Sunder & Myers, 1999). Also, from the analysis, the market equity negatively impacts the debt level of the firm, though the results are not significant. This comprehensive analysis will enable academicians and researchers to comprehend capital structure determinants within firms through the lens of the pecking order theory and signalling hypothesis. In the emerging scenario, world organizations are emphasizing the importance of sustainable development goals towards the protection of the environment, society, and good governance. As per the results of the data analysis, the firms with higher ESG (Environment, Society, and Governance) scores have a lower propensity to issue more equity and a higher propensity to issue equity. As per the study, a higher ESG score can include higher perceived environmental costs, and lower stakeholder values leading to deterioration in the value of the firm. Corporate Governance negatively influences the level of debt and a firm with more board meetings has a lower level of debt. Also, from the analysis,

the market capitalization negatively impacts the debt level of the firm. Moreover, the higher value of tangible assets leads to a higher level of market capitalization and lower bankruptcy costs lead to higher market capitalization.

$ROE_{it} = \alpha_{it} + \beta_{it}.$ Environment $+ \beta_{it}.$ Social $+ \beta_{it}.$ Government $+ \beta_{it.}$ SDG $+ \beta_{it}.$ Long term debt $+ \beta_{it}.$ assets $+ \beta_{it}.$ DPS $+ \beta_{it}.$ liquidity $+ \beta_{it.}$ income $+ \beta_{it}.$ altman z $+ ROA_{it}$

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$Income_{it} = \alpha_{it} + \beta_{it}.$ Environment $+ \beta_{it}.$ Social $+ \beta_{it}.$ Government $+ \beta_{it.}$ SDG $+ \beta_{it}.$ Long term debt $+ \beta_{it}.$ assets $+ \beta_{it}.$ DPS $+ \beta_{it}.$ liquidity $+ \beta_{it.}$ income $+ \beta_{it}.$ altman z $+ ROE_{it} + \beta_{it}.$ ROA_{it}

Table 2: Impact of Corporate Governance on profitability of firms

Coefficient	ROA	ROE	Income
ROA		0.922***	
environment	-.670	-1.014	-0.105**
social	0.795	1.006	0.0245
government	0.557	0.904	0.068
SDG	2.797**	2.292**	0.259
long term debt total assets	-0.142**	-0.056	-0.016**
log assets	-0.705	-3.29***	0.923***
DPS	-0.000	0.000	-0.000
liquidity	0.437	-1.045	0.174
log income	2.591***	5.073***	0.030***
altman z score	1.093***	1.211***	0.603***
Constant	-14.158	-2.700	- 2.686***
rho	0.697	0.692	0.718

The study discussed in Table 2 focuses on the impact of corporate governance on firm profitability and shareholder wealth. It aims to assess how corporate governance and firm characteristics, particularly related to capital structure, influence the profitability of the firm and shareholder wealth. The analysis shows that Return on Assets (ROA) has a positive impact on Return on Equity (ROE), indicating a favorable relationship. Additionally, leverage has a lower impact on ROA, implying a trade-off between risk and return in the firm. Income is found to have a positive impact on both ROA and ROE. However, bankruptcy costs demonstrate a negative impact on ROE and ROA, while Sustainable Development Goals (SDG) positively impact both ROE and ROA, showcasing their favorable influence on firm performance and shareholder wealth.

Impact of the various factors on the capital structure of the firms across different Quantile

There are different factors that determine the capital structure of the firm across different quantiles of market capitalization. Factors impacting the capital structure include profitability measures, corporate governance, and existing debt and preference share capital in the capital structure. The data analysis reveals that the existing level of debt has a positive impact on the market capitalization of the firm only in the lower quantile. In the higher quantile, the level of debt does not have any impact on the market capitalization of the firm.

$Market\ Capital_{it} = \alpha_{it} + \beta_{it}.$ Debt $+ \beta_{it}.$ Preference $+ \beta_{it}.$ ROA $+ \beta_{it.}$ ROE $+ \beta_{it}.$ ESG

Table 3: Factors impacting market capitalization

Market Cap	Quantile (25 percentile)	Quantile (50 percentile)	Quantile (75 percentile)
Debt	0.157**	0.090**	0.099

Preference share	0.816***	0.808***	0.825***
ROA	0.044	0.026	0.033
ROE	0.039	0.040**	0.039
ESG	-0.047	-0.240***	-0.265**
Constant	1.566	3.625***	3.819***

Table 3 highlights the result of the factors impacting the market capitalization of the firm. The analysis of the data highlights that the debt and preference share capital leads to higher market capitalization across the different quantiles. And ESG leads to lower market capitalization across the quantiles. The higher return to the equity shareholders leads to higher market capitalization across the quantiles.

$$\textbf{Logincome}_{it} = \alpha_{it} + \beta_{it}.\ \textbf{Debt} + \beta_{it}.\ \textbf{Preference} + \beta_{it}.\ \textbf{ROA} + \beta_{it}.\ \textbf{ROE} + \beta_{it}.\ \textbf{ESG}$$

Table 4: Factors impacting income of firms

Loginc	**Quantile (25 percentile)**	**Quantile(50 percentile)**	**Quantile (75 percentile)**
Market cap	0.435***	0.696***	0.665***
Debt	0.661***	0.327***	0.341***
Preference share	-0.116**	-0.096***	-0.094
ESG	-0.030	-0.047	-0.032
ROA	0.013	-0.016	-0.021
ROE	0.065***	0.046***	0.043
Constant	-3.596***	-2.485***	-2.016**

In Table 4, the results indicate that market capitalization and debt exert a positive influence on the firm's income. Additionally, Return on Equity (ROE) is noted to have a positive impact on the firm's income as well. These findings suggest that market capitalization, debt levels, and Return on Equity play significant roles in influencing the income of the firm, highlighting their importance in financial performance evaluation.

Table 5 highlights that as per the analysis of data, the higher market capitalization leads to higher debt across the quantiles. Also, the companies with higher ESG (Environment Society, and Governance) scores tend to deploy more debt. The companies with better ESG scores are perceived as less risky and more sustainable. These companies thus find it easier to raise debt, as companies with higher ESG scores get access to lower interest rates, longer repayment periods, and larger loan amounts as compared to those with weaker ESG scores, more so among the lower quantile.

$$\textbf{Log debt}_{it} = \alpha_{it} + \beta_{it}.\ \textbf{Debt} + \beta_{it}.\ \textbf{Preference} + \beta_{it}.\ \textbf{ROA} + \beta_{it}.\ \textbf{ROE} + \beta_{it}.\ \textbf{ESG}$$

Table 5: Factors impacting debt

Log debt	**Quantile (25 percentile)**	**Quantile (50 percentile)**	**Quantile (75 percentile)**
Log mcap	0.573***	0.639***	0.648***
Logpref	0.228***	0.080	0.069
esg	0.292***	0.169	0.087
Roa	-0.0315	-0.043	-0.065
Roe	0.0144	0.012	0.021
Constant	0.0759	1.598	2.565***

Table 5 highlights the results of the factors that impact the level of debt in the firm, across different quantiles. The study further aims to measure the impact of female directors, and independent directors on the earnings of the shareholders

$$EPS_{it} = \alpha_{it} + \beta_{it}. Debt + \beta_{it}. Preference + \beta_{it}. ROA + \beta_{it}. ROE + \beta_{it}. ESG + \beta_{it}. Independent\ director + \beta_{it}. Female\ director + \beta_{it} Female\ director. independent\ director$$

	EPS
Independent director	0.455
Female director	3.745**
Fem*independent director	-7.815**
ESG	0.79
ROA	-0.111
ROE	0.258***
Rho	0.830

The study highlights that female directors have a positive impact on the earnings of the firm and female, independent directors have a negative impact on the earnings of the firm. ROE has a positive impact on the earnings per share of the firm.

CONCLUSION

The study highlights the pecking order theory, according to which higher bankruptcy costs hurt the debt levels of the firm. Bankruptcy costs influence the capital structure of the firm, highlighting the priority of debt holders in case of insolvency. Higher bankruptcy costs are associated with reduced debt levels, although not definitively significant. Firms with higher Altman Z scores exhibit less inclination towards debt, validating the study's hypothesis and demonstrating the impact of profitability on debt decisions. Tangible assets positively affect a firm's debt value, whereas income demonstrates a negative relationship with the level of debt taken by the firm, aligning with the risk-return trade-off and the principles of the pecking order theory. Organizations with higher ESG scores exhibit a reduced propensity to issue equity, and higher ESG scores can encompass perceived environmental costs and lower stakeholder values, potentially impacting the firm's overall value. Corporate governance, as evidenced by board meetings, shows a negative impact on the value of debt and market capitalization. The study delves into the impact of corporate governance and firm characteristics on profitability and shareholder wealth. The return on assets (ROA) of a firm positively impacts the return on equity (ROE), indicating a trade-off between risk and return. Income influences ROA and ROE positively, while bankruptcy costs have a negative impact. Sustainable Development Goals (SDG) also demonstrate a positive impact on ROA and ROE.

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