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MASTER THESIS

TITLE IN LITHUANIAN	TITLE IN ENGLISH
Įmonės kapitalo struktūros poveikis jos kapitalo kaštams ir vertei.	Impact of Company’s Capital Structure on its Cost of Capital and its Value.

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Abstract

Understanding how capital structure can affect firms' cost of capital and value has long been a central issue in the field of corporate finance. Vast evidence has been found in the literature in the favour of the claim that capital structure of a listed firm (that using debt component in its capital base) can affect its cost of capital and market value significantly. Literature suggests multiple theories, e.g., agency theory, capital structure theory, pecking order theory, trade off theory, etc., to depict the impacts of capital structure on firms' cost of capital and market value. With the motivation to check whether the claim applies to the listed firms in an emerging economy, this study aims to evaluate how the variations in Bangladeshi listed firms' capital structure affect their overall market value and cost of capital. The theoretical framework of the study stands on the propositions suggested by the capital structure theory of Modigliani and Miller, and the concept of weighted average cost of capital. The study employed a quantitative design and used secondary sources to collect the required data for the investigation. The population of the study are the listed firms on the DSE, and a sample of 20 listed firms from 5 different sectors were selected for data collection. A purposive sampling technique was used in this regard. The data collection period covered from 2015 to 2024 making the sample consisting 200 firm-year observations. Five hypotheses have been stemmed from the key bodies of literature reviewed related to this research, and the validity of these hypotheses has been tested using Ordinary Least Squares (OLS) regression analysis using IBM SPSS Statistics v.22. The results of hypothesis testing indicates that in the context of an emerging economy like Bangladesh, it is inferred that listed firms' capital structure influences their cost of capital and firm value with statistical significance. However, the moderation of cashflow stability of the firms did not have any statistically significance, while the moderation of default risk and access to financing had statistical significance.

Santrauka

Supratimas, kaip kapitalo struktūra gali paveikti įmonių kapitalo kainą ir vertę, jau seniai yra vienas iš pagrindinių klausimų įmonių finansų srityje. Mokslinėje literatūroje rasta daug įrodymų, patvirtinančių teiginį, kad listinguotos įmonės kapitalo struktūra (kai kapitalo bazėje naudojama skolos sudedamoji dalis) gali reikšmingai paveikti jos kapitalo kainą ir rinkos vertę. Literatūroje siūloma keletas teorijų, pavyzdžiui, agentūros teorija, kapitalo struktūros teorija, hierarchijos teorija, kompromiso teorija ir kt., kurios apibūdina kapitalo struktūros poveikį įmonių kapitalo kainai ir rinkos vertei.

Atsižvelgiant į tai, šio tyrimo tikslas, patikrinti, ar šis teiginys galioja listinguotoms įmonėms besivystančioje ekonomikoje, tokių kaip, įvertinti, kaip Bangladešo listinguotų įmonių kapitalo struktūros pokyčiai veikia jų bendrą rinkos vertę ir kapitalo kainą.

Tyrimo teorinis pagrindas remiasi Modigliani ir Miller kapitalo struktūros teorijos pasiūlytomis prielaidomis bei svertinio vidutinio kapitalo kainos koncepcija. Tyrime taikytas kiekybinis tyrimo dizainas, o reikalingi duomenys rinkti iš antrinių šaltinių. Tyrimo populiaciją sudarė įmonės, listinguotos Daka vertybinių popierių biržoje, o imčiai atrinkta 20 listinguotų įmonių iš 5 skirtingų sektorių. Šiuo atveju buvo taikytas tikslingos atrankos metodas. Duomenų rinkimo laikotarpis apėmė 2015–2024 m., todėl galutinė imtis sudarė 200 įmonės-metų stebėjimų.

Remiantis pagrindiniais su tyrimu susijusiais literatūros šaltiniais, buvo suformuluotos penkios hipotezės, kurių pagrįstumas patikrintas taikant paprastųjų mažiausių kvadratų regresijos analizę naudojant IBM SPSS Statistics v.22 programą. Hipotezių testavimo rezultatai rodo, kad besivystančios ekonomikos, tokios kaip Bangladešas, kontekste įmonių kapitalo struktūra statistiškai reikšmingai veikia jų kapitalo kainą ir įmonės vertę. Tačiau pinigų srautų stabilumo moderavimo poveikis nebuvo statistiškai reikšmingas, tuo tarpu nemokumo rizikos ir finansavimo prieinamumo moderavimo poveikiai buvo statistiškai reikšmingi.

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CHAPTER 1: INTRODUCTION OF THE STUDY

1.1. Background Information

Relevance of the Topic

The issue of understanding how capital structure would affect a firm's cost of capital and value as a whole has long been a central issue in corporate finance. In a business context where firms are operating in an increasingly dynamic and complex environment with regard to governance markets, it is imperative for firms to be able to make informed decisions regarding debt and equity financing in order to ensure viability and value creation (Ross et al., 2019; Zhao & Wang, 2023). In this highly relevant globalized economy, capital costs are determined by internal strategies as well as external conditions (Vo, 2021; Venkatesh & Chiang, 2005). Thus, understanding what affects capital structure as well as cost of capital is vital in the field of corporate finance.

Level of Exploration of the Topic

The theoretical and practical aspects of capital structure have been addressed by the existing literature, e.g., Modigliani and Miller's propositions, trade-off theory and pecking order theory (Bossone, 2024; Yıldırım & Çelik, 2021). However, practical implementation and dynamic behaviour of capital structure decisions across different firm types, regions, and stages are less researched. In addition to this, environmental, social, and governance (ESG) factors and real-world market signals being integrated into capital structure decisions according to an emerging yet untapped area of empirical research (Vasilaki & Tsakalos, 2022; Javaid et al., 2023). Thus, adequate research has been found in the existing literature to build the theoretical foundation of the research topic and develop the conceptual framework to execute the research.

Novelty of the Master Thesis

Novelty in this thesis is created by synthesizing the old capital structure theories with recent governance, firm lifecycle, regional dynamics, and non-financial influences (ESG) empirical research observations. A multidimensional view of how firm value and the cost of capital link internal strategies, market fluctuations, sector specific behaviour, and governance quality is introduced (Zhang & Li, 2023; Agasha et al., 2022). In addition, the study critically examines dynamic, firm-specific structuring ones that are still a relatively recent perspective (Kontuš et al., 2023). In short, the study provides with the insights about how different aspects of capital structure affect cost of capital of listed Bangladeshi firms which is new to the literature existing related to this specific geography.

1.2. Problem Statement

Despite various theories suggesting a relationship between firm value and capital structure, empirical research findings show different outcomes regarding the association. For instance, while the Pecking Order Theory puts priority on internal financing above external sources, the Trade-Off Theory emphasizes the tax benefits of debt. Nevertheless, theoretical underpinnings are very often defied by practical situations as firm-specific outcomes in line with industry characteristics and unique market dynamics can show different results.

Having a good understanding of how firm value and the cost of capital get influenced by capital structure is vital for decision-making on financial matters of corporates. This is critical, particularly in new markets, where high volatility in interest and exchange rates, regulatory constraints, and access to financing challenge the efficient management of capital structure of firms. By addressing such gaps, this study aims to offer practical insights for investors and managers as well.

1.3. Research Aim and Objectives

The fundamental aim of this research study is to explore how the overall market value and the cost of capital of a firm are affected by variations in its capital structure.

To examine the relationship between firms' capital structure and cost of capital, the following specific objectives have been pursued:

1. To review current literature, systematically, on the association between firm value, cost of capital, and capital structure.
2. To identify key aspects, such as company size and market conditions which affect the relationship between firm value and capital structure.
3. To develop a comprehensive methodology that will assist in analysing the relationship between the capital structure of a company, its overall value and its cost of capital.
4. To provide insights that are practically important to investors and managers on financing decisions that assure long-term sustainability.
5. To propose recommendations that are practical for companies aiming at optimizing their capital structure to attain maximum value creation.

1.4. Research Questions

Answers to the following questions have been searched throughout this research for meeting the set objectives:

1. How do market conditions or industry-specific factors influence the capital structure and firm value relationship?
2. How are financial risks and cost of capital aspects in a firm affected by the proportion of debt in capital structure?
3. Are there any particular conditions where certain structures of capital yield desirable outcomes across regions or industries?
4. How does the structure of capital affect a firm's weighted average cost of capital practical?
5. Based on the different theories of finance, what is the relationship between firm value and capital structure?

1.5. Rationale of the Study

The rationale for selecting the particular subject of this research is based on its significance for academia and practitioners. Capital structure decisions are one of the most critical financial decisions of firms as they interact with profitability, risk, market value as well as the existence of the firm (Ayoola & Odusina, 2023). Though capital structure soundly has a basis in theory, in the real world, its practical implications and results are much more complex and dependent on a given context.

This study is particularly relevant in the evolving economic environment that firms find themselves at present. Businesses are confronted with volatile markets, changing regulations, and increasing pressure on issues such as sustainability and corporate governance (Gupta & Khanna, 2022). The conventional capital structure theories can help firms improve their ways of how they should act in this age of deep uncertainty. It is therefore essential to gain a deeper understanding of how capital structure affects the cost of capital and firm value, in a variety of sectors and regions (Shemetov, 2024). The motivation for conducting this research has been stimulated from this necessity.

This study makes a specific contribution to the underlying theoretical related discussions by incorporating the existing financial theories of capital structure and cost of capital. By synthesising the existing classical theory and new empirical documents, this research attempts forming various insights on how the capital structure theories function in the practical world. It evaluates the association of firms’ capital structure with firms’ size, age, and other basic characteristics, as well as firms’ profitability, industry characteristics and economic factors.

From the application viewpoint, the study’s implications can be of interest to corporate finance managers, investors, and policymakers. The outcomes are meaningful to corporate decision-makers about how to shape capital structure to achieve long-run sustainability and value creation. From the investment viewpoint, it is also valuable to understand how financial leverage is connected with firms’ performances and risk factors, which can facilitate improved portfolio assessment and evaluation.

1.6. Summary of Applied Research Methods

The research follows a quantitative design for evaluating the relationship between capital structure and cost of capital of some selected firms listed on the Dhaka Stock Exchange (DSE), the major bourse of Bangladesh. In this pursuit, the study depends on secondary sources to collect data regarding the selected sample firms and prepare the panel dataset. The population of the study are the listed firms on the DSE, and using a purposive sampling technique, 20 listed firms from 5 different industries has been selected as the sample of the study. Furthermore, the data collection process covered a time period from 2015 to 2024, i.e., the last 10 years, which resulted in construction of a panel dataset of 200 firm-year observations.

The theoretical framework of the study leans on to the propositions provided by Modigliani & Miller (1963) which dictate that the value of a levered firm depends on the tax shield for the portion of fund it manages from the external sources or lenders. The study also considers the weighted average cost of capital concept which involves the returns on equity and debt portions of the capital structure. Using these theoretical underpinnings related to cost of capital and capital structure, the panel dataset has been arranged under different variables which have been used as dependent, independent and control variables for multiple hypotheses in this research. The validity of these hypotheses has been tested using Ordinary Least Squares (OLS) regression analysis using IBM SPSS Statistics v.22.

1.7. Structure of the Thesis

The thesis paper has been arranged into multiple chapters. In this first chapter, an introduction to the topic has been provided along with the novelty of the investigation, existing gap in the literature, as well as motivation and justification for conducting the research, which lead to developing the research purpose, i.e., aim and objectives of the research. The second chapter of the paper provides with the outcomes of the review of the key bodies of literature relevant to the research topic. In this chapter, the key concepts of capital structure and cost of capital have been discussed in light of literary findings. Besides, the underpinnings of different theories related to capital structure and cost of capital have also been discussed herein to provide with the theoretical framework of the research. The chapter also presented empirical review of previous research to understand different aspects of the association between capital structure and cost of capital. The third chapter of this paper furnished the methodological approach of the research, and processes of data collection and analysis for meeting the research objectives.

The fourth chapter of this paper presents the results of data analysis conducted under the investigation plan. The results included descriptive and inferential statistical analyses which are essential to meet the research objectives by answering the research questions. The fifth chapter draws critical discussion of the major results from the data analysis in light of the literature reviewed in this research. In this chapter, the results of the current research are compared with and contrasted to that of the previous research in order to find what new has been found at the end of this investigation. The last chapter provides with a conclusion to the study by drawing whether the research objectives are met. The chapter also suggests recommendations for practical implications by the stakeholders based on the findings of the study. Besides, recommendations for future researchers are also given in this chapter based on the limitations of the current research.

CHAPTER 2: LITERATURE REVIEW

2.1. Key Concepts

Capital Structure

Capital structure is the combination of a company's debt and equity used to finance its operations and long-term investments. By nature, it is composed of a mix of both equity and debt. The ideal balance between these two and the trade-off between them undergird much of strategic financial decisions because a firm's risk profile, the cost of capital, and the firm value are influenced very heavily by the balance (Khan et al., 2021). How companies structure their capital can differ significantly based on their industry, size, stage of growth, and the associated risk profile.

Several factors impact capital structure choices, such as interest rates, market environment, tax considerations, and prevailing manager behaviour. Although debt financing has tax benefits from the interest tax shield, the use of debt causes potential bankruptcy costs. Equity financing, conversely, does not require repayment, yet ownership is watered down and control may be relinquished in making decisions (Kruk, 2021). Firms seek to attain an optimal capital structure, trading off the benefits and costs of both debt and equity, to facilitate the pursuit of an optimal long-run strategy and maximize value creation.

Cost of Capital

Cost of capital is the rate of return that an investing company is provided to succeed in its investments or other activities. The capital cost includes the cost of equity, the cost of debt and, if applicable, the cost of preference shares capital (Brusov & Filatova, 2023). The Weighted Average Cost of Capital (WACC) is the most prevalent measure of this type, which combines these components based on the share of each in the firm's capital structure. But the cost of capital is not just static, it changes with different variables such as interest rates, market risk, credit ratings and investor sentiments. Strategic finance seeks to reduce WACC to construct refining ideas for a prospective strategy of the firm in those areas.

Firm Value

Corporate value, generally known as enterprise value, is the aggregate value of the enterprise as a market would see. It includes equity value as well as debt value and reflects the total capital invested in the business. Market capital does not include net debt and other financial obligations. Various endogenous and exogenous factors have an impact on firm value such as earning prospects, growth opportunities, operating efficiency, as well as risk absorbing capacity, net borrowing and finally capital structure determinants (Abate & Kaur, 2023).

The value of the firm is central to strategic and financial planning. The maximisation of value is the first and foremost goal of the managers and shareholders, as it measures how successful the firm is in making returns from its operations, above the cost of the capital. Capital structure is a crucial factor in this respect. Through the optimal structure of debt and equity in financing, firms can lower the cost of finance and firm value can be maximised (Ai et al., 2020). However, poorly structured capital can result in suboptimal valuations resulting from higher financial risk or a loss of confidence in the company by investors. The dynamics of the interaction between the value of the firm, cost of capital and capital structure. It tends to force changes in the other elements, which is why it all points to the need for comprehensive financial decision-making.

2.2. Overview of Capital Structure Theories

Agency Theory

Agency theory is founded on the separation of ownership from control over the firm and the conflicts of interest that can emerge between different stakeholders in the firm, particularly between owners and managers. Managers are paid to run the business for the owners but are not always the best advocates for shareholders (Pihkala, 2024). Divergence in objectives can have implications for how the capital structure is determined, particularly with regard to the monitoring and incentivisation of managerial conduct. Using debt can also lead to the misalignment of interests between shareholders and debt holders. Shareholders can induce riskier projects, benefiting from the upside of risk while the downside is shared with creditors. This capacity for risk shifting might affect the firm's borrowing costs or the application of covenants by lenders, which could influence the firm's choice of financing.

The agency costs, in terms of both monitoring, bonding and residual losses from asset substitution, are key in the choice of capital structure (Ali et al., 2021). Firms have to balance the advantage of having a debt discipline dynamic against the cost of financial distress and agency conflicts with bondholders. From the perspective of the agency theory, the capital structure choice is not simply a technical decision, but a mechanism of governance addressed to mitigating the internal inefficiencies and the information asymmetry.

Using integrative literature review approach, Al-Faryan (2024) explored the agency theory, corporate governance and corruption. First, the study analyses critically how agency conflicts arise between shareholders and managers under different interests and how this preference of managers bears on the capital structure decision. Despite being beneficial in shedding light on governance mechanisms that might reduce agency costs, the paper did not explicitly relate these mechanisms to capital cost or the values of firms. A gap is the dearth of empirical linkage between efficiency of governance and particular outcomes of capital structure. Nevertheless, it emphasized the significance of transparent and ethical behaviour for keeping confidence of investor, a pattern that authenticates that the theory of agency happens to be relevant to financial structuring.

Agency theory is extended by Dong et al. (2021) by incorporating behavioural elements into IT investment decisions. Despite not being an explicit focus on the capital structure, the explanation provided by the behavioural agency framework for how risk aversion and incentive misalignment impact managerial financial decisions could explain why firms tend to have less or even excessive amounts of debt. They found that optimality in the financial policy is considerably skewed by bounded rationality and risk appetite. The strength of the study was in combining behavioural and agency perspectives, yet did not apply to ‘traditional’ capital structuring decisions such as debt equity choices. Yet, it showed that research was moving towards including psychological and strategic decision making into capital decisions.

Modigliani-Miller Theorem

The theory of capital structure, Modigliani and Miller's theorem is mostly considered the base theory. It assumes that in the perfect world, it makes no difference to the value of the company and how the company is financed (Rodriguez, 2024). These are no taxes, no bankruptcy costs and no asymmetric information, together with full efficiency of the markets. In its simple form, the MM theorem is that the financial structure has no effect on the cost of capital. However, in the presence of real-world factors, the theory grows into a more useful model. By incorporating corporate taxes, the conclusion of the tax shield is achieved the firm’s effective cost of capital is reduced and so is the company’s value. This upside in tax benefits tends to make modest amounts of debt attractive in some respects. The value of the tax shield should nevertheless be weighed against the possible costs of financial distress. If debt firm’s debt is too high, then the firm is more likely would go to bankrupt or get restructuration which bothers the firm value the MM theorem paves the way to more sophisticated theories the trade-off theory is an example by emphasises the trade-off between the benefits and costs of debt (Khoa & Thai, 2021).

In the case of globalized public finances, Bossone (2022) re-examined the well-known Modigliani–Miller (MM) theorem. While covering public sectors, the theoretical framework provided a new angle of relating capital structure irrelevance to private companies. Based on the study, under real world market frictions, MM assumptions fail due to policy, global capital flow and sovereign constraints. It was observed in this theoretical extension that MM's capital cost invariance did not apply to firms operating in global financial environments. Furthermore, it contributed to the ongoing reevaluation of the assumptions of the capital structure theories and encouraged the researchers to contextualise these theories.

Making this argument further, Bossone (2024) applied the MM framework to modern global economies. Though the focus was still on public finance, the article pointed out that the capital structure decisions are affected by institutional and macroeconomic constraints. However, the paper did not do any micro level analysis of private firms but identified key issues (e.g. regulatory asymmetries and fiscal constraints) that could well influence those private firms' capital decisions too. One such insight was that far from becoming increasingly relevant in a world of imperfect markets as claimed by MM theory, it in fact becomes increasingly irrelevant and that it is necessary to match theory to reality in finance.

Pecking Order Theory

Pecking order theory provides a behavioural view of capital structure, and pinpoints the pecking order rules that firms follow in capital taking for their operations. Instead of aiming for the optimal level of gearing, this theory proposes that businesses have their preference for financing with internal funds, and then adding debt, using equity as a last resort (Dommes et al., 2019). This preference stems from the information asymmetry problem of corporate insiders and outside investors. Internal sources, like retained earnings, do not need to be disclosed to external parties and are thus least vulnerable to misinterpretation. Debt then follows since it would require less oversight than equity and would leave a feeling of confidence in the market that the firm will meet current obligations. However, the market tends to see an equity raising as management's tacit approval that it believes the company is overvalued with the result that the share price falls.

Based on the pecking order theory, the firms do not have an optimum or a fixed capital structure. Instead, organisational form develops as an endogenous function of the need of the firm for outside money and its internal resources (Lehtonen, 2023). This fact renders the theory particularly suitable for firms that face variations in profitability, cash flows and opportunities for investment.

Turkish firms were used by Yıldırım and Çelik (2021) to test the pecking order theory (POT) applying a panel quantile regression. The study also confirmed that firms prefer to rely on internal financing over external and there are differences in firms' behaviour across quantiles of a performance distribution. The main contribution was the methodological sophistication that dealt with heterogeneity among firms. Nonetheless, the study was restricted to the geographic space, and the hierarchy of funding sources was not analysed from the point of view of market volatility. Nevertheless, this was primarily because it confirmed a core POT principle: that firms prefer retained earnings to the issuance of debt or equity.

Specifically, Chaklader and Padmapriya (2021) empirically validated that cash surplus plays a role in capital structure formation. From this, their findings suggested firms with cash surpluses are less likely to court external financing; evidence that corroborates the internal-first financing preference. While insightful, the foregoing primarily focused on Indian firms and was not concerned with the dynamics in the industry. This reflected a recurring theme in POT literature: the focus of liquidity and internal finance as the main capital structural tools.

Beyond Traditional Theories

The trade-off theory reconciles the MM theorem with the imperfections of the real world, arguing that firms weigh the interest deduction advantages of debt against the bankruptcy or distress costs of debt in financing decisions. Interest is tax deductible, which makes the cost of capital lower, and this is the main benefit of borrowing (Brusov et al., 2022). Conversely, the main disadvantage is the higher probability of financial distress and agency costs, especially at higher levels of indebtedness. Theory suggests that there exists an optimal capital structure for each firm and this maximises firm value by balancing the marginal benefit of debt and the marginal cost of debt. The theory is that managers make this trade-off consciously and actively when deciding how much debt to take on, thus adjusting the capital structure accordingly.

In 2023, Brusov et al. introduced a new model for optimal capital structure that differed from the trade-off theory. Their theoretical model included taxation, inflation and rating influence, and showed how a dynamic capital structure can be formed in a multivariate setting. However, response to this novel approach was limited to its shortcomings with static trade-off frameworks, and there was no empirical validation. It is also the strength of the model to take the multi factor perspective which recognizes that capital structuring in the real world is becoming increasingly complicated. This was an indication of a move to more nuanced, customised models of capital cost optimisation.

The trade-off theory was thoroughly reviewed by Ai et al. (2021) as they presented its empirical and theoretical issues. The work laid out how firms trade off the benefits of tax shields against the costs of financial distress. Yet, behavioural and institutional constraints detail how real firms actually may deviate from the predicted optimal capital structure. The main idea was that the theory has limited predictive power and calls for scholars to look into alternative or blended frameworks as a way of enhancing accuracy.

2.3. Empirical Studies on Capital Structure and Cost of Capital

Through their effect on real investment, Vo (2021) studied the effects of price movements on decisions regarding capital structure and cost of capital. The study used econometric models to test how different market prices determine the capital structure and the capital allocation at the firm level. Although the paper presents an interesting approach for linking market signals to internal financing decisions, one major drawback is the absence of industry level analysis, which may cause its practical implication for the industry level strategy to become less interesting. This core idea, revealed, is that though capital structure is essentially an internal management tool, it is also reactive to external fluctuations in markets, and relies heavily on the given functioning of market pricing when considering investment and capital choices.

In 2023, Javaid et al., (2023) studied the effect of corporate governance on capital structure, where the cost of capital is a mediator. Structural equation modelling (SEM) was used in the study on data from Pakistan’s listed firms. Based on the findings their avers, the cost of capital varies inversely with the strength of governance mechanisms and firms are induced to take optimal risk taking leverage decisions. A major weakness is its geographic restrictedness: Pakistan’s special corporate and regulatory framework may confine its applicability to the world. Yet, the study provides an important pattern; good governance cuts down information asymmetry and financing risk which, in turn, positively affects the quality of firm capital structure and firm value.

Or in other words, as Kontuš et al., (2023) propose a quantitative optimization model to minimize the cost of capital and maximize firm value. They integrate the theoretical assumptions into model as well as the practical financial indicators. Even though there is complete mathematical modelling, there is no empirical validation over the actual world datasets, thereby leading to the question of its generalization. The key point here is that capital structure is dynamic and context specific rather than static and should therefore be determined by optimizing tools rather than the maximization of the so called value of equity per dollar of debt as has usually in the past been emphasised.

Capital structure, loan portfolio quality, mediating role and cost of capital: The case of Ugandan financial institutions is what Agasha et al., (2022) had explored to unveil the mediating role of the cost of capital between capital structure and loan portfolio quality. Path analysis has been used to illustrate how better performing loan portfolios have been linked to lower cost of capital due to balance leverage. It is limited by a narrow sectoral focus on banking that may not mean much in terms of less financially exposed firms. However, the study provides, to the best of the knowledge of the author, a new angle: Capital structure decisions affect operational metrics, like loan quality, and the implications of capital structure reach beyond corporate finance into financial stability.

Lukanima (2023) reviewed major capital structure theories and practical connection of those theories with the cost of capital with the help of case studies. The study though is not empirical yet provides meaningful insights into how the real firms make capital structure decisions which they assess and use in practice. The only pitfall however is the general nature of the case studies and not using rigorous statistical analysis limiting academic depth. The key pattern of this work is that contextual considerations are more important than universal rules when it comes to setting financial, in this case, capital structure strategy.

Table 1. *Literature Matrix on Empirical Studies on Capital Structure and Cost of Capital*

Author(s)	Year	Focus Area	Methodology	Key Findings	Gaps/ Limitations	Key Themes
Vo	2021	Market prices and capital structure	Econometric modelling	Market price movements influence capital structure and investment decisions	No industry-level analysis	Capital structure is responsive to market signals
Javaid et al.	2023	Corporate governance and capital structure	Structural Equation Modelling (SEM)	Strong governance lowers cost of capital and encourages optimal leverage decisions	Limited to Pakistan's regulatory context	Governance improves capital efficiency
Kontuš et al.	2023	Optimization of cost of capital and firm value	Quantitative optimization model	Proposed model optimizes capital structure to minimize cost and maximize value	No empirical validation with real-world data	Capital structure is dynamic and context-specific

Author(s)	Year	Focus Area	Methodology	Key Findings	Gaps/ Limitations	Key Themes
Agasha et al.	2022	Capital structure, loan quality & cost of capital	Path analysis	Better loan portfolios relate to lower capital cost via balanced leverage	Limited to Ugandan banking sector	Capital structure impacts financial stability
Lukanima	2023	Theoretical review of capital structure	Case study-based review	Contextual factors determine practical capital structure decisions	Lacks statistical/empirical depth	Practical strategy must be context-driven
Zhao & Wang	2023	Profitability and Capital Structure	Empirical panel data analysis	Moderate leverage improves profitability; excessive debt harms performance	Lacks industry/size-specific causality	Bidirectional link between structure and profit
Ross, Westerfield & Jaffe	2019	Dynamic Interactions	Theoretical, textbook framework	Capital structure shifts with internal and external factors	No empirical data	Capital structure is fluid and adaptive
Titman & Wessels	1988	Methodological Challenges	Factor analysis	Asset structure and firm size affect leverage decisions	Dated data; possible model errors	Importance of variable specification
Sitorus & Siregar	2022	Optimal Capital Structure	Analytical modeling	Optimal structure minimizes capital cost under different risks	Not empirically tested across industries	Optimal structure is not fixed
Smith	2020	Capital Structure Choices	Empirical regression analysis	Stable firms prefer debt; high-risk firms rely on equity	Ignores strategic/behavioral dimensions	Risk perception drives structure decisions
Venkatesh & Chiang	2005	Global Perspectives	Comparative empirical analysis	Capital structure depends on legal/market institutions	Limited coverage of emerging markets	Institutional context shapes structure
Zhang & Li	2023	Company Lifecycle	Empirical analysis (tech firms)	Lifecycle stages influence financing; startups prefer equity	Limited to U.S. tech sector	Lifecycle-aligned structuring
Vasilaki & Tsakalos	2022	ESG & Cost of Capital	Hybrid literature review	ESG performance reduces cost of capital and boosts firm value	Lacks quantitative synthesis	ESG as emerging capital cost factor

2.4. Critical Themes in Empirical Research

Market Conditions

Graham (2000) carried out a quantitative analysis to quantify the tax advantages of debt from firms' perspectives. From his study he concluded that while firms theoretically receive large payoffs from tax shields, many firms in practice do not fully capitalize on that benefit; After all, the news is generally noisy and integrated into implied cost of capital; also, bankruptcy risk matters and can affect capital structure decisions. Debt plays was one of the key insights to note that market conditions, more specifically interest rate fluctuations and credit availability, were highly intervening the cost benefit dynamics of debt usage. The study further assumed that the firms made rational decisions, and therefore its applicability was limited to the scenarios where there is information inefficiency in the turbulent and emerging market environment. This drew the attention of the gap between the theoretical models and the needs of the real world to choose a capital structure.

Regional Differences

The authors, Graham and Harvey (2001), surveyed more than 390 CFOs to compare how capital structure decisions are in practice. For example, the study of U.S. firms mainly by their hand found that local and cross-country tax, regulatory, and financial market development helped to earn firms' strong preferences for debt or equity. A weakness was the inability to compare the technology across countries and to draw conclusions beyond U.S. contexts. However, their research indicated that a country's regional financial system and investor comforts are significant to how organizations comprehend and adopt kinds of financing. It thus stressed the need to situate capital structure theories in a firm regional context.

Industry Dynamics

On the basis of further surveys and interviews, Graham and Harvey (2002) extended their earlier findings to provide additional light on how industry norms do impact capital structure. The research discovered that firms typically compare themselves to industry peers in the debt ratio computing, especially in the case of the industries with high capital intensity or stability of cash flow. Given that peer-driven, they suggest an industry-level influence on leverage decisions through competitive positioning and market expectations in an industry. The study however does not delve too deep into how sector specific mechanisms (e.g. how regulation in utilities differ from innovation in tech) would affect structuring decisions. Nevertheless, it noted a common tendency for firms to link their financial decision-making with the industry standard to set investor expectation and therefore decrease perceived risk.

Company Performance and Capital Structure

Higgins (2023) gave a strategic analysis of how capital structure planning is affected by firm performance. On the other hand, he argues that firms with higher performance have a better access to different funding options and can better afford to swing both ways between debt and equity. The pecking order theory is supported by the book by mentioning that profitability, return on equity and internal cash flow often guide capital decisions. An important strength was the connection between financial ratio analysis and strategic planning. Yet the work was more exploratory in character than empirical testing, thus making it less applicable in different firm sizes or stages in the firm's lifecycle. Nevertheless, the book emphasized an important observation: high performance gives firms the leverage, both literally and figuratively, to make capital structure decisions.

Capital Structure and Technology Companies

Moreover, Higgins (2023) understands that technology firms face unique challenge in capital structuring. Yet while intellectual assets and therefore value top the spectrum of dependency, and while their technological assets are relatively scarce, tech firms rely on equity financing not only in late stage but especially in early-stage initiatives. Traditional debt financing does not make sense because of their unpredictable cash flow, and fast innovation cycles. The findings of this analysis confirmed that tech firms have deviated from the trade off or MM capital structure theories. However, the discussion was more theoretical with limited case evidence and only fairly generic comparison across stage of firm maturity. Nevertheless, it addressed a very key point—technology capital structuring depends on the tangibility of assets, growth outlooks and innovation risk.

2.5. Critical Evaluation

Profitability and Capital Structure

Zhao and Wang (2023) studied the two–way relationship between capital structure and profitability based. They also found that firms with moderate leverage often perform better re profitability whereas there is a negative correlation between excessive debt and the financial distress risks. What they added was the key idea that capital structure affects profitability, and also as profitability affects capital structure. However, the study did not delve much into the causality mechanisms in different firm sizes and industries. Such insight also suggests that a dynamic, firm–specific capital policy requires a profitability threshold beyond which leverage erodes firm value.

Dynamic Interactions

According to Ross et al., (2019), the very fundamentals of capital structure decisions within changing market environments were built. Stress was laid on how interest rates, taxes and business cycles influence debt-equity ratios over a period of time. They had considered comprehensive theoretical frameworks as in their textbook, but did not have granular empirical validation. However, their dialogue revealed one key point: despite any of these, efficient capital structure is not static but reactive to internal growth and external economic conditions in favour of dynamic models over one model fits all.

Methodological Challenges

In their paper, Titman and Wessels (1988) use factor analysis to determine the determinants of the capital structure of different firms. As they innovatively segregated the short-term and long run debt and found resulting that the asset structure, firm size are important determinants of leverage decisions. However, this was limited by the fact that the data dates back a few years, and there is a chance model specification error. The study also raised the centuries old problem in capital structure research of isolating the influence of the correlated variables in these multi variable settings. It underlined the need for methodological rigor to capture the complexity of the financial decision process.

Optimal Capital Structure

A model to determining the optimal capital structure by minimizing capital cost had been developed by Sitorus and Siregar (2022). Based on research, they explained how firms should continuously recalculate their financial mix between equity and debt depending on the riskiness of their business, to maintain valuation efficiency. In spite of the robustness of the model, it has not been subject to empirical testing beyond industry and economy. However, the study presented a main theme that optimal capital structure is a moving target determined by external risk conditions and internal capital costs but not a fixed ratio.

Capital Structure Choices

According to Smith (2020), he did an empirical analysis of debt financing, which he proved that top firm specific factors such size, age and cash flow stability have an impact on the financing decisions. He discovered that firms with predictable revenues and good credit histories like debt, while firms with riskier histories avoid it. Though the study was quite practical in its applicability, it does not say much about the strategic motive behind capital structure other than through financial metrics. It highlighted a practical pattern, namely, that capital choices are based on a capacity to repay and perceived stability and thus demonstrated the significance of risk management in decision structuring.

Global Perspectives on Capital Structure

According to Venkatesh and Chiang (2005) the capital structure of U.S. and emerging market firms has been compared and the maturity of markets and institutional frameworks has been seen as very important. For U.S. firms, the responses were more predictable in cost of capital while they faced volatility and regulatory unpredictability for emerging market firms. Limitation was partial sample of emerging economies; however, the study opened a perspective, which was central, variations of legal systems, financial transparency and trust of investors create impact on the global standard of capital structure.

Company Lifecycle

On technology firms, Zhang and Li (2023) showed that capital structure decisions change with the firm's lifecycle. Equity answers to early-stage tech firms due to high risk and intangibility of assets where the latter is used by mature firms for expansion. They found their empirical evidence conformed to the lifecycle stage determining financing strategy primarily in innovation driven fields. But the focus of most of the research was restricted to U.S. tech corporations. This only serves to increase the fact that capital structuring must fit growth stage, strategic goals, and asset tangibility.

Cost of Capital and Debt Financing

According to Vasilaki and Tsakalos (2022), literature has been reviewed to connect the ESG practices to cost of capital. He found that financial investors showed a preference for responsible firms, as they cost less to finance. This was this hybrid approach whereby corporate finance was merged with sustainability and the resulting capital structuring had a modern dimension. However, the review was not quantitative synthesis, which reduced its precision. It left open, however, an emerging pattern: increasingly, nonfinancial performance changes firms' access to and cost of capital, thus expanded the scope of financial theories.

Collectedly from all the available literature, it is evident that capital structure requires a multifaceted approach as it is influenced both by internal firm dynamics and by external market conditions. Empirical studies such as by Vo (2021) and Javaid et al. (2023) highlight how market signals and corporate governance impact the cost of capital and financing strategy, while theoretical contributions by Kontuš et al. (2023) and Lukanima (2023) argue that adaptive approaches are more valuable than reliance on too rigid of models in the context of capital acquisition. Across the studies, there were methodological and regional limitations, yet a recurring pattern is found: there is no universal optimal capital structure; its evolution is contingent on firm characteristics, market behaviour, and institutional frameworks; therefore, financial decisions need to be flexible, informed, and strategically tailored.

2.6. Effects of Capital Structure on Cost of Capital and Firm Value

The study of the impact of capital structure on the cost of capital and value of the firm is fundamental to modern corporate finance. It provides a range of empirical evidence, often illustrating how the nature of the industry itself, the nature of the marketplace governance quality and firm specifics are reasonably relevant to capital structure choices. Theoretical models are idealised interpretations, but empirical observations often show patterns, anomalies and complex context-dependent configurations that expose and correct those theories.

Capital Structure and Cost of Capital

Evidence demonstrates that the cost of capital of a firm has been found to be related to the capital structure choices made by a firm. Among the reasons is the influence of the WACC, the weighted average cost of capital that is obtained by combining the cost of debt and the cost of equity (Giglio, 2022). Generally, significant use of debt tends to reduce WACC due to the tax shield on interest. When companies bring in a higher share of debt in their capital structure, the cost of capital naturally decreases at first, as being more debt-financed also cheapens funding and widens the horizon for investment in value-adding projects.

However, the relationship is not linear. Above some level, higher levels of debt can increase financial risk and raise the cost of borrowing. Creditors might ask for a higher interest rate in compensation for the higher risk, and rating agencies may lower the firm’s creditworthiness. Equity holders, meanwhile, may want more of a return in light of higher volatility and potential for financial distress. These changes will push up the WACC, offsetting the earlier gains from leverage.

This prediction is consistent with empirical evidence, which has shown that firms in relatively stable industries are more likely to experience positive wealth effects of leverage because of the stability of cash flows (Khan, 2024). They also typically have a cost of financing advantage, since creditors consider them less risky. On the other hand, companies in cyclical or innovation-based industries generally prefer to use the equity route. Their volatile cash flows and large intangible assets mean that they cannot carry too much debt without seeing the cost of their capital spike as the market values them differently.

Capital Structure and Firm Value

Capital structure's impact on firm value is both complex and situation-specific. Empirical findings provide evidence that capital structure decisions can increase or decrease a firm's market value according to how efficiently the corporation manages its debt structure (Nguyen et al., 2020). A mix of debt and equity can facilitate value creation by minimising the cost of funds as well as communicating financial prudence to investors.

Companies with the right level of debt tend to have higher valuations mainly as a result of better return on equity, larger investment potential, and more tax benefit and prudent leverage often is taken by the market as an affirmation of confidence in the future of earnings and can support stock prices. Meanwhile, a lean capital structure might enable the firms to maintain strategic flexibility and be more resilient during economic downturns, which may result in a more positive long-term valuation.

Too much debt can hamper firm value, though. High leverage can put a company in danger of going bankrupt, especially when revenue is falling and interest rates are rising (Hama et al., 2024). This perception of risk, in turn, can increase share price volatility and erode investor confidence. Indeed, empirical evidence has unequivocally supported the fact that excessively leveraged companies are underperformers on a long-range basis as far as market valuation and operations are concerned. Firm size, asset type, and industry effect have been repeatedly reported as contingent variables in the association between financial leverage and value.

CHAPTER 3: RESEARCH METHODOLOGY

3.1. Research Design

The study employs quantitative research design methodology to conduct an analysis of the relationship existing between the cost of capital and capital structure, in the presence of other firm-level characteristics and attributes. Quantitative methods are effective in providing objective and measurable insights into trends and patterns amongst firms. The study employs a causal-comparative method to determine how variations in capital structure affect important financial metrics, such as market valuation and the weighted average cost of capital in practical cases.

Based on the study conducted by Bui et al. (2023), capital structure greatly affects firm value. Firms that balance the debt-to-equity ratio often perform better. According to research by Kaplan and Zingales (1997), entities with higher debt levels incur higher expenses which are often associated with financial instability. The research examines the association between firm profitability and leverage ratios by employing panel data regression models.

When the corporate taxes are considered, the first proposition of MM theory inclines that firm value is increased in line with leverage level as the interest served on debt capital provides with a tax benefit (or tax shield), i.e., the value of a levered firm is higher than the value of an unlevered firm which is differentiated by the tax shield; whereas the second proposition inclines that the average cost of capital of a firm decreased in line with its increasing leverage levels (Modigliani & Miller, 1963).

Based on this, the assumption of this study is that in a realistic economy where corporate tax prevails, the value of a levered firm is as follows:

$$V_L = V_U + T_c \, . \, D$$

Here, V_L represents the value of a levered firm, V_U represents the value of an unlevered firm, T_c presents corporate tax rate and D represents debt capital used in the capital structure of the firm.

On the other hand, the cost of capital of a levered firm is as follows:

$$R_E = R_A + (1 - T_c)\,(R_A - R_D)\,(^D/_E)$$

Here, R_E represents the cost of equity of a levered firm, R_A represents the cost of equity on an unlevered firm, T_c presents corporate tax rate, R_D represents the cost of debt, D represents debt capital and E represents the equity capital used in the capital structure of the firm.

On the other hand, WACC is the measure of average cost of capital of a levered firm which provides with a single rate inferring the level of cost the firm must service for using its capital structure (Damodaran, 2015; Ross et al., 2019). The calculation of WACC involved associated weights of the capital components of the firm, which can include either debt, equity, or both.

If D represents the value of debt capital and E represents the value of equity capital of a levered firm, its total value is as follows:

$$V_L = D + E$$

Then the weights of debt and equity capitals are respectively as follows:

$$W_D = {}^{D} / {}_{(D + E)}$$

$$W_E = {}^{E} / {}_{(D + E)}$$

As such, considering T_c as the corporate tax rate, the WACC is calculated using the following formula:

$$WACC = [{}^{D} / {}_{(D + E)}].\ R_D\ .\ (1 - T_c) + [{}^{E} / {}_{(D + E)}]\ .\ R_E$$

3.2. Methods for Data Collection

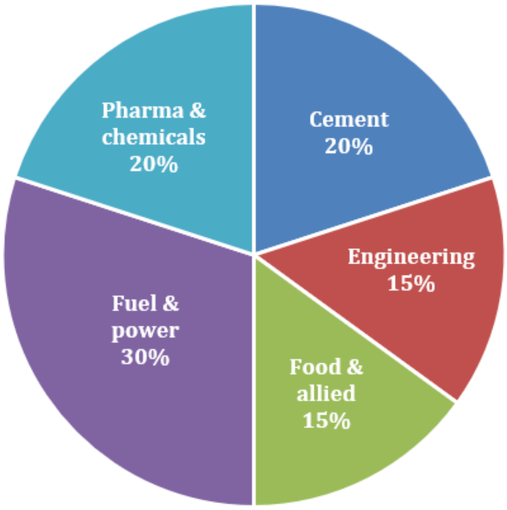
Target Population and Research Sample

The research focuses on 20 publicly listed firms across various industries from an emerging market. Selection of the firms has been based on the following criteria:

- Availability of required financial data for the set research period.
- Representation from different sectors, e.g., manufacturing, engineering, energy, etc.

The target population of the research are the listed firms on the Dhaka Stock Exchange (DSE) in Bangladesh, an emerging economy. Using a purposive sampling technique, which is a non-probabilistic method of sampling, 20 firms from 5 industries have been selected as the sample. Firms from telecom and financial sector have been excluded intentionally considering their usual high debt levels. The sample covered a period from 2015 to 2024, i.e., the last 10 years. This makes the sample consisting 200 firm-year observations, with 20 firms and 10 years.

Figure 1. Industry distribution of the sample



Data Sources and Collection Process

The research depends on secondary sources for collection of data regarding the sample firms. The data sources are the websites of the DSE and Bangladesh Bank (the central bank of the country), and the annual reports of the sample firms. The panel dataset has been prepared in an MS Excel worksheet where 10 years from 2015 to 2024 for each of the 20 sample firms have been covered towards building the 200 firm-year observations sample. The data for each firm-year observation has been observed from these secondary sources and recorded in the worksheet. The dataset has been prepared with careful observation, recording and scrutiny for reliable results through data analysis.

3.3. Research Hypotheses and Empirical Models

Research Variables

The major variables used in the research included capital structure, cost of capital, firm value and other firm-level financial performances. The variables have been used as dependent, independent and control variables in this study to depict the hypotheses of the research and assume the regression models required for the quantitative data analysis.

Debt-equity ratio (DER): Debt-equity ratio is calculated as the ratio of total debt to total equity of the sample firms as the measures of firm-level debt structure (Kontuš et al., 2023). It is the major ratio of capital structure of any firm. It is also known as the financial leverage of a firm which uses external sources to raise capital for financing its business. The motivation for using debt capital or higher financial leverage is to establish control on more resources and stimulate the growth potential of future returns.

Weighted Average Cost of Capital (WACC): Weighted average cost of capital is measured as the average cost of capital of a firm by assigning corresponding weights of capital components of the firm (Ross et al., 2019). It denotes a single cost rate for using capital funds in firms. It helps understand the feasibility of any prospective project that a firm is considering and trying to arrange financing for it.

Market Value (MCAP): Market value of the firm has been determined by calculating the natural log of market capitalisation of the firms (Damodaran, 2020). Market capitalisation indicates the total value of the outstanding shares of a listed firm that are traded publicly. It represents the entire worth of a firm in the capital market on the closing of a day.

Return on Equity (ROE): Return on equity is calculated by the percentage of net profit on total equity of firms (Zhao & Wang, 2023). It is one of the key indicators of a firms' profitability. It infers the extent of profitability or earnings that a firm generates using its owners' equity capital.

Firm Size (SIZ): Firm size has been determined by calculating the natural log of total assets of the firms (Kontuš et al., 2023). It indicates the balance sheet size of a firm on the closing of a reporting periods. In other words, it provides an insight about how much resources a firm control to operate its business.

Revenue Growth (REVG): Revenue growth is calculated as the percentage change in revenue of current year over revenue of previous year of a firm (Kontuš et al., 2023). It indicates the performance growth of a firm over a period. Firms use this metric to determine business volatility within industry.

Cashflow SD (SD_OCF): Cashflow standard deviation has been calculated as the standard deviation of a firm's operating cashflows over the last 3 years. It infers the stability in cashflow of a firm, which helps it further to understand how robustly it can generate cashflow from its major operations to support the regular business.

Debt-equity ratio Squared (DER_QUAD): Debt-equity ratio squared is the quadratic expression of debt-equity ratio of a firm which helps in depicting the relationship of its cost of capital or market value with capital structure beyond the optimal level. It helps understand the pattern of return or value-creation after the optimal capital structure level.

Industry Type (INDRS): Industry type of the firms has been determined by expressing specific coding against the representing industries that the firms belong to (Zhao & Wang, 2023). The following codes were assigned against the industries:

Pharma & chemicals	1
Cement	2
Engineering	3
Food & allied	4
Fuel & power	5

Credit Rating (CRAT): Credit rating has been determined by expressing specific coding against the awarded long-term rating by independent rating agencies which represented the default risks of the firms. The higher the value of the variable, the higher the risk of default the firms carry. The following codes were assigned against the ratings:

AAA	1
AA	2
BBB	3

Lending Rate (LENDR): Lending rate has been considered as the average country-level rate of interest for borrowing money from banks and financial institutions. It indicates the firms' access to financing to fund their business operations and probable expansions.

Hypotheses Development and Empirical Models

The hypotheses for the study have been developed focusing specifically on the following relations:

- The relationship that exists between firm value and debt-equity ratio across various industries.
- The effects following moderation of size, profitability, and industry characteristics on capital structure decisions.
- Nonlinear relation between cost of capital and debt-equity ratio.

H_1: ***Companies in new markets show a stronger correlation between high levels of debt and raised cost of capital due to greater default risks and reduced access to financing.***

The first hypothesis is depicted through the following linear model:

$$\mathrm{WACC_i} = \alpha + \beta_1(\mathrm{DER_i}) + \beta_2(\mathrm{CRAT_i}) + \beta_3(\mathrm{LENDR_i}) + \beta_4(\mathrm{SIZ_i}) + \beta_5(\mathrm{ROE_i}) + \beta_6(\mathrm{REVG_i}) + \beta_7(\mathrm{INDRS_i}) + \varepsilon_i$$

In the above model, WACC represents the dependent variable which is regressed with the independent variable DER under the moderation of CRAT and LENDR at the presence of firm-level control variables SIZ, ROE, REVG and INDRS. In this model, α is the regression constant, β_j is the regression coefficient and ε_i is the random error term.

H_2: ***Companies with greater profitability and higher market capitalization are most likely to maintain less leverage, by the Pecking Order Theory.***

The second hypothesis is depicted through the following linear model:

$$\mathrm{DER_i} = \alpha + \beta_1(\mathrm{ROE_i}) + \beta_2(\mathrm{MCAP_i}) + \beta_3(\mathrm{SIZ_i}) + \beta_4(\mathrm{REVG_i}) + \beta_5(\mathrm{INDRS_i}) + \varepsilon_i$$

In the above model, DER represents the dependent variable which is regressed with the independent variables ROE and MCAP at the presence of firm-level control variables SIZ, REVG and INDRS. In this model, α is the regression constant, β_j is the regression coefficient and ε_i is the random error term.

H_3: ***There is a tremendous negative relation between firm value and the debt ratio after exceeding an optimal threshold. This is in support of the Trade-Off Theory.***

The third hypothesis is depicted through the following quadratic model:

$$\mathrm{MCAP_i} = \alpha + \beta_1(\mathrm{DER_i}) + \beta_2(\mathrm{DER_i}^2) + \beta_3(\mathrm{SIZ_i}) + \beta_4(\mathrm{ROE_i}) + \beta_5(\mathrm{REVG_i}) + \beta_6(\mathrm{INDRS_i}) + \varepsilon_i$$

In the above model, MCAP represents the dependent variable which is regressed with the independent variable DER and its quadratic form DER^2 at the presence of firm-level control variables SIZ, ROE, REVG and INDRS. In this model, α is the regression constant, β_j is the regression coefficient and ε_i is the random error term.

H_4: ***Capital cost reduces with an increase of debt-equity ratio up to optimum, after which it increases because of costs of financial distress.***

The fourth hypothesis is depicted through the following quadratic model:

$$\mathrm{WACC_i} = \alpha + \beta_1(\mathrm{DER_i}) + \beta_2(\mathrm{DER_i}^2) + \beta_3(\mathrm{SIZ_i}) + \beta_4(\mathrm{ROE_i}) + \beta_5(\mathrm{REVG_i}) + \beta_6(\mathrm{INDRS_i}) + \varepsilon_i$$

In the above model, WACC represents the dependent variable which is regressed with the independent variable DER and its quadratic form DER^2 at the presence of firm-level control variables SIZ, ROE, REVG and INDRS. In this model, α is the regression constant, β_j is the regression coefficient and ε_i is the random error term.

H_5: The effect on firm value by capital structure is greatly pronounced in industries where there are stable cash flows.

The fifth hypothesis was depicted through the following linear model:

$$\mathrm{MCAP_i} = \alpha + \beta_1(\mathrm{DER_i}) + \beta_2(\mathrm{SD\_OCF_i}) + \beta_3(\mathrm{SIZ_i}) + \beta_4(\mathrm{ROE_i}) + \beta_5(\mathrm{REVG_i}) + \beta_6(\mathrm{INDRS_i}) + \varepsilon_i$$

In the above model, MCAP represents the dependent variable which is regressed with the independent variable DER under the moderation of SD_OCF at the presence of firm-level control variables SIZ, ROE, REVG and INDRS. In this model, α is the regression constant, β_j is the regression coefficient and ε_i is the random error term.

3.4. Data Analysis Technique

The panel dataset has been analysed with the help of inferential analysis using IBM SPSS Statistics v.22. Inferential analysis is particularly suitable for testing hypotheses in any investigation evaluating cause-effect relationships. Firstly, the Shapiro-Wilk's test has been conducted to check whether the major variables of the study was normally distributed. Before proceeding for any statistical test, it is important to determine whether a panel data forms a normal distribution, which can change the inferences. Furthermore, the Ordinary Least Squares (OLS) regression analysis has also conducted for hypothesis testing. Using OLS regression is suitable for providing statistical framework to determine whether the relationship between two or more variables is statistically significant. OLS regression analysis facilitated the testing of the assumed hypotheses regarding debt-levels, cost of capital and firm value. Besides, Variance Inflation Factor (VIF) has been employed to check the existence of multicollinearity issues among the independent, moderating and control variables.

3.5. Summary of methodology

The methodological framework of the research has been drawn based on a critical literature review, as well as qualitative meta-analysis of empirical and theoretical studies found within the extant literature. It offers the selection criteria for literature, from the academic journals and peer reviewed sources covering the capital structure, cost of capital, governance, ESG and firm valuation. The reviewed studies use various methodological approaches like econometric model, structural equation modelling, optimisation model, path analysis, etc. This explains the need for a quantitative synthesis with secondary research rather than collection of primary data on this basis of making depth of analysis across different contexts and sectors. This also allows for a methodologically transparent study as well as enables the goal of the study to extract patterns, gaps and implications across the literature.

CHAPTER 4: DATA ANALYSIS AND RESULTS

The results of the research have been segregated into two main parts – descriptive and inferential statistical analysis. The descriptive statistics of the research variables help predict the basic attributes of the target population. On the other hand, the inferential statistics of the panel data help determine the parameters and their statistical significance related to the assumed hypotheses capturing the research objectives.

4.1. Descriptive Statistics

The results indicate average WACC of 0.065 with standard deviation of 0.05 implying that cost of capital of the sample firms were centred quite close around the mean WACC value. Similarly, average ROE was 0.195 with standard deviation of 0.21 which indicate that the profitability values of the sample firms were also centred closely around the mean ROE value. On the other hand, MCAP had average value of 10.03 and standard deviation of 1.71 indicating high dispersion of market capitalisation of the sample firms around the mean value. Similarly, DER also had average of 1.59 with standard deviation of 1.41 indicating a high data variability of debt-equity ratios of the sample firms around the mean value. Among the other variables, SD_OCF (operating cash flow) and SIZ (asset size) had high standard deviation implying high data variability, while REVG (revenue growth), LENDR (lending rate) and CRAT (credit rating) had low standard deviation indicating very low dispersion of observations around the mean values.

Table 2. *Descriptive statistics of the research variables*

Variable	Observation (n)	Minimum value (x_{min})	Maximum value (x_{max})	Mean ($\bar{x}$)	Standard deviation (σ)
WACC	200	0.00006	0.41164	0.06518	0.05438
MCAP	200	6.88755	14.63188	10.02525	1.71018
DER	200	0.05014	9.99529	1.58937	1.41041
ROE	200	-0.21585	1.11349	0.19519	0.21295
SD_OCF	200	4.71496	36491.47622	1346.78219	3110.81753
SIZ	200	6.01993	11.79537	9.46464	1.58354
REVG	200	-0.94983	10.34788	0.15063	0.76163
LENDR	200	0.07100	0.12900	0.09410	0.18164
CRAT	200	1.00000	3.00000	1.59000	0.58700

4.2. Normality Test

The Shapiro-Wilk (SW) test for normality check of the major variables provides with test statistics (W) 0.785 for WACC (cost of capital), 0.967 for MCAP (natural log of market capitalisation as firm value) and 0.775 for DER (debt-equity ratio). The test statistics for each of these variables were significant at 1% critical level, since $p = 0.001 \leq 0.01$. Hence, it can be inferred that observations recorded under these variables did not follow a normal distribution. This indicates that the data under these variables requires non-parametrical statistical analysis for effective evaluation.

Table 3. *Results of Shapiro-Wilk test for normality of major variables*

Variable	W	d. f.	p
WACC	0.785	200	0.001
MCAP	0.967	200	0.001
DER	0.775	200	0.001

4.3. Regression Analysis Results

H_1: Companies in new markets show a stronger correlation between high levels of debt and raised cost of capital due to greater default risks and reduced access to financing.

Correlation coefficient of the model was 0.611 indicating a moderately strong positive correlation among the dependent, independent, moderating and control variables. The coefficient of determination was 0.373 indicating that 37.30% changes in the dependent variable WACC (cost of capital) can be explained through the variations in the independent, moderating and control variables. The modified measure of goodness of fit was 0.350 indicating that there was not much deviation from the coefficient of determination. The F change 16.305 was significant at 1% level as p = 0.001 ≤ 0.01, indicating that the model was a good fit for the dataset capturing the hypothesis.

The first hypothesis is accepted, as coefficient of independent variable DER (debt-equity ratio) 0.137 was found significant at 5% level (since for t-stat = 0.037, p = 0.037 ≤ 0.05); and coefficient of moderators CRAT (credit rating as default risk) -0.347 was found significant at 1% level (since for t-stat = -4.190, p = 0.001 ≤ 0.01) and LENDR (lending rate as access to financing) -0.226 was found significant at 1% level (since for t-stat = -3.897, p = 0.001 ≤ 0.01). The control variables SIZ (natural log of total assets as firm size), ROE (return on equity as profitability) and INDRS (industry type) had statistically significant influence on WACC (cost of capital), as coefficient of SIZ -0.313 was found significant at 1% level (since for t-stat = -4.095, p = 0.001 ≤ 0.01), coefficient of ROE 0.370 was found significant at 1% level (since for t-stat = 5.656, p = 0.001 ≤ 0.01) and coefficient of INDRS 0.122 was found significant at 5% level (since for t-stat = 1.994, p = 0.048 ≤ 0.05). The effects of DER, ROE and INDRS were positive on WACC, and the effects of CRAT, LENDR and SIZ were negative on WACC. Variance inflation factors (VIF) of the independent, moderating and control variables were ranged from 1.031 to 2.097, i.e., within 1-5 ranges, which indicates moderate correlation among these variables.

Table 4. Regression results – Hypothesis 1

R	R^2	Adjusted R^2	S. E.	F	p
0.611	0.373	0.350	0.044	16.305	0.001
Variable	β	t	p	Tolerance	VIF
Constant	0.241	6.156	0.001	-	-
DER	0.137	2.097	0.037	0.762	1.313
CRAT	-0.347	-4.190	0.001	0.477	2.097
LENDR	-0.226	-3.897	0.001	0.970	1.031
SIZ	-0.313	-4.095	0.001	0.561	1.784
ROE	0.370	5.656	0.001	0.762	1.312
REVG	0.006	0.098	0.922	0.954	1.048
INDRS	0.122	1.994	0.048	0.878	1.139

H_2: Companies with greater profitability and higher market capitalization are most likely to maintain less leverage, by the Pecking Order Theory.

Correlation coefficient of the model was 0.397 indicating a weak positive correlation among the dependent, independent, moderating and control variables. The coefficient of determination was 0.158 indicating that only 15.80% changes in the dependent variable DER (debt-equity ratio) can be explained through the variations in the independent, moderating and control variables. The modified measure of goodness of fit was 0.136 indicating that there was not much deviation from the coefficient of determination. The F change 7.275 was significant at 1% level as $p = 0.001 \leq 0.01$, indicating that the model was still a good fit for the dataset capturing the hypothesis.

The second hypothesis is partially accepted, as coefficient of independent variables ROE (return on equity as profitability) -0.039 was not found significant at even 10% level (since for t-stat = -0.559, p = 0.576 > 0.10) and MCAP (natural log of market capitalisation as firm value) 0.462 was found significant at 1% level (since for t-stat = 4.391, $p = 0.001 \leq 0.01$). On the other hand, the control variable SIZ (natural log of total assets as firm size) had statistically significant influence on DER (debt-equity ratio), as coefficient of SIZ -0.228 was found significant at 5% level (since for t-stat = -2.281, $p = 0.024 \leq 0.05$). The effect of MCAP was positive on DER, and the effect of SIZ was negative on DER. Variance inflation factors (VIF) of the independent, moderating and control variables were ranged from 1.022 to 2.546, i.e., within 1-5 ranges, which indicates moderate correlation among these variables.

Table 5. *Regression results – Hypothesis 2*

R	R^2	Adjusted R^2	S. E.	F	p
0.397	0.158	0.136	1.311	7.275	0.001
Variable	β	t	p	Tolerance	VIF
Constant	0.049	0.070	0.944	-	-
ROE	-0.039	-0.559	0.576	0.878	1.139
MCAP	0.462	4.391	0.001	0.393	2.546
SIZ	-0.228	-2.281	0.024	0.436	2.291
REVG	0.084	1.269	0.206	0.979	1.022
INDRS	-0.114	-1.587	0.114	0.840	1.191

H_3: There is a tremendous negative relation between firm value and the debt ratio after exceeding an optimal threshold. This is in support of the Trade-Off Theory.

Correlation coefficient of the model was 0.841 indicating a strong correlation among the dependent, independent, moderating and control variables. The coefficient of determination was 0.707 indicating that 70.70% changes in the dependent variable MCAP (natural log of market capitalisation as firm value) can be explained through the variations in the independent, moderating and control variables. The modified measure of goodness of fit was 0.698 indicating that there was not much deviation from the coefficient of determination. The F change 77.496 was significant at 1% level as $p = 0.001 \leq 0.01$, indicating that the model was a good fit for the dataset capturing the hypothesis.

The coefficient of independent variables DER (debt-equity ratio) -0.409 was found significant at 1% level (since for t-stat = -0.409, $p = 0.001 \leq 0.01$) and DER_QUAD (quadratic term of debt-equity ratio) 0.672 was found significant at 1% level (since for t-stat = 6.484, $p = 0.001 \leq 0.01$). This indicates a U-shaped curve depicting the relationship between firm value and debt-level, implying that firm value is the lowest at mid-level debt-equity ratio, while it increases with the increasing debt-level, which is the opposite of what the hypothesis assumed. Thus, the third hypothesis is rejected. However, control variables SIZ (natural log of total assets as firm size), ROE (return on equity as profitability) and INDRS (industry type) had statistically significant influence on MCAP (natural log of market capitalisation as firm value), as coefficient of SIZ 0.648 was found significant at 1% level (since for t-stat = 16.111, $p = 0.001 \leq 0.01$), coefficient of ROE 0.297 was found significant at 1% level (since for t-stat = 7.129, $p = 0.001 \leq 0.01$) and coefficient of INDRS -0.169 was found significant at 1% level (since for t-stat = -4.122, $p = 0.001 \leq 0.01$). The effects of SIZ and ROE were positive on MCAP, and the effects of DER and INDRS were negative on WACC. Variance inflation factors (VIF) of the moderating and control variables were ranged from 1.035 to 1.140, i.e., within 1-5 ranges, which indicates moderate correlation among these variables. But VIF of independent variables were 6.810 and

7.073 which was above 5 but below 10, indicating that there could be some potential multicollinearity issues.

Table 6. *Regression results – Hypothesis 3*

R	R^2	Adjusted R^2	S.E.	F	p
0.841	0.707	0.698	0.941	77.496	0.001
Variable	β	t	p	Tolerance	VIF
Constant	3.806	7.963	0.001	-	-
DER	-0.409	-4.022	0.001	0.147	6.810
DER_QUAD	0.672	6.484	0.001	0.141	7.073
SIZ	0.648	16.111	0.001	0.940	1.064
ROE	0.297	7.129	0.001	0.877	1.140
REVG	0.049	1.228	0.221	0.966	1.035
INDRS	-0.169	-4.122	0.001	0.902	1.109

H_4: Capital cost reduces with an increase of debt-equity ratio up to optimum, after which it increases because of costs of financial distress.

Correlation coefficient of the model was 0.529 indicating a moderate correlation among the dependent, independent, moderating and control variables. The coefficient of determination was 0.280 indicating that only 28.00% changes in the dependent variable WACC (cost of capital) can be explained through the variations in the independent, moderating and control variables. The modified measure of goodness of fit was 0.257 indicating that there was not much deviation from the coefficient of determination. The F change 12.486 was significant at 1% level as p = 0.001 ≤ 0.01, indicating that the model was a good fit for the dataset capturing the hypothesis.

The coefficient of independent variables DER (debt-equity ratio) -0.235 was not found significant at even 10% level (since for t-stat = -1.472, p = 0.143 > 0.10) and DER_QUAD (quadratic term of debt6-equity ratio) 0.283 was found significant at 10% level (since for t-stat = 1.743, p = 0.083 ≤ 0.10). This indicates a U-shaped curve depicting the relationship between cost of capital and debt-level, implying that cost of capital decreases with increasing debt-level but increases after a certain level, which is in the direction assumed in the fourth hypothesis. But as the coefficients of the independent variables were not significant at 5% level, the fourth hypothesis is rejected. However, control variable ROE (return on equity as profitability) had statistically significant influence on WACC (cost of capital), as coefficient of ROE 0.530 was found significant at 1% level (since for t-stat = 8.128, p = 0.001 ≤ 0.01). The effect of ROE was positive on WACC. Similar to the results under the third hypothesis, variance inflation factors (VIF) of the moderating and control variables were ranged from 1.035 to 1.140, i.e., within 1-5 ranges, which indicates moderate correlation among these variables; and VIF of independent variables were 6.810 and

7.073 which was above 5 but below 10, indicating that there could be some potential multicollinearity issues.

Table 7. *Regression results – Hypothesis 4*

R	R^2	Adjusted R^2	S.E.	F	p
0.529	0.280	0.257	0.047	12.486	0.001
Variable	β	t	p	Tolerance	VIF
Constant	3.806	7.963	0.001	-	-
DER	-0.409	-4.022	0.001	0.147	6.810
DER_QUAD	0.672	6.484	0.001	0.141	7.073
SIZ	0.648	16.111	0.001	0.940	1.064
ROE	0.297	7.129	0.001	0.877	1.140
REVG	0.049	1.228	0.221	0.966	1.035
INDRS	-0.169	-4.122	0.001	0.902	1.109

H_5: The effect on firm value by capital structure is greatly pronounced in industries where there are stable cash flows.

Correlation coefficient of the model was 0.803 indicating a strong correlation among the dependent, independent, moderating and control variables. The coefficient of determination was 0.645 indicating that 64.50% changes in the dependent variable MCAP (natural log of market capitalisation as firm value) can be explained through the variations in the independent, moderating and control variables. The modified measure of goodness of fit was 0.634 indicating that there was not much deviation from the coefficient of determination. The F change 58.455 was significant at 1% level as $p = 0.001 \leq 0.01$, indicating that the model was a good fit for the dataset capturing the hypothesis.

The fifth hypothesis is partly accepted, as coefficient of independent variable DER (debt-equity ratio) 0.177 was found significant at 1% level (since for t-stat = 3.688, $p = 0.001 \leq 0.01$), but coefficient of moderator SD_OCF (standard deviation of operating cashflows as cashflow stability) 0.056 was not found significant even at 10% level (since for t-stat = 1.108, $p = 0.269 > 0.10$). However, control variables SIZ (natural log of total assets as firm size), ROE (return on equity as profitability) and INDRS (industry type) had statistically significant influence on MCAP (natural log of market capitalisation as firm value), as coefficient of SIZ 0.664 was found significant at 1% level (since for t-stat = 14.042, $p = 0.001 \leq 0.01$), coefficient of ROE 0.212 was found significant at 1% level (since for t-stat = 4.891, $p = 0.001 \leq 0.01$) and coefficient of INDRS -0.212 was found significant at 1% level (since for t-stat = -4.719, $p = 0.001 \leq 0.01$). The effects of DER, SIZ and ROE were positive on MCAP, and the effect of INDRS were negative on MCAP. Variance inflation factors (VIF) of the independent, moderating and control variables were ranged from 1.025 to 1.366, i.e., within 1-5 ranges, which indicates moderate correlation among these variables.

Table 8. *Regression results – Hypothesis 5*

R	R^2	Adjusted R^2	S. E.	F	p
0.803	0.645	0.634	1.035	58.455	0.001
Variable	β	t	p	Tolerance	VIF
Constant	3.259	5.996	0.001	-	-
DER	0.177	3.688	0.001	0.803	1.245
SD_OCF	0.056	1.108	0.269	0.732	1.366
SIZ	0.664	14.042	0.001	0.822	1.216
ROE	0.212	4.893	0.001	0.976	1.025
REVG	0.029	0.657	0.512	0.973	1.028
INDRS	-0.212	-4.719	0.001	0.913	1.096

4.4. Path analysis and summary of hypothesis testing

The results of hypothesis testing indicates that only the first hypothesis was fully accepted, whereas the second and fifth hypotheses were partially accepted. However, the third and fourth hypotheses were rejected as the coefficients of the independent variables and moderators were not statistically significant in those cases. As such, in the context of an emerging economy like Bangladesh, it is inferred that listed firms' capital structure influences their cost of capital and firm value with statistical significance. However, the moderation of cashflow stability of the firms did not have any statistically significance, while the moderation of default risk and access to financing had statistical significance.

Table 9. *Path analysis of the hypotheses testing*

Hypothesis	Independent variables/ Moderators	Dependent variables	Coefficient	Hypothesis acceptance
H_1	DER	WACC	0.137^{**}	Accepted
	CRAT		-0.347^{***}	
	LENDR		-0.226^{***}	
H_2	ROE	DER	-0.039	Partially accepted
	MCAP		0.462^{***}	
H_3	DER	MCAP	-0.409^{***}	Rejected
	DER_QUAD		0.672^{***}	
H_4	DER	WACC	-0.235	Rejected
	DER_QUAD		0.283^{*}	
H_5	DER	MCAP	0.177^{***}	Partially accepted
	SD_OCF		0.056	

$^{*}0.05 < p \leq 0.10$ $^{**}0.01 < p \leq 0.05$ $^{***}p \leq 0.01$

CHAPTER 5: DISCUSSION OF MAJOR RESULTS

In this chapter, the main findings of the empirical analysis have been critically discussed by comparison to the theoretical frameworks and the literature review. The main objective is to interpret the statistical relationships in the light of the main theories of capital structure – Modigliani-Miller, Trade-Off, Pecking Order and Agency, and to check whether the relationships run consistent with or counter these theories. By systematically examining each such theory, this chapter emphasises in which way the cost of capital and value of a firm are affected by its capital structure decision, taking into account both its idiosyncratic fingerprints and broader market conditions. Special attention is given to collapsing and diverging empirical findings and theoretical predictions, when available by referring to relevant scientific literature for the interpretation of each finding. The discussion also examines how moderating effects of firm size, profitability, creditworthiness and industry type on these relationships.

The empirical test of Hypothesis 1 revealed that firm with debt and in a new or a highly-risky market possessed significantly positive to relationship with the higher Weighted Average Cost of Capitals (WACC). The relationship is valid within theoretical ideas as well as prior empirical studies that propose the complex association amid capital structure and risk perception within limited settings. The Agency Theory provides a distinct perspective as far as the cause of such an outcome is concerned. This is more profound when the markets are high-risk as well as when the markets are rising and in emerging markets where the managers would in response feel the need to conflict not only with shareholders but also with the debtors. In such environments, managers can be inducted into new more risky investment projects, especially when debt-financed, as Vo (2021) argued, since the asymmetry of the payoff is in favour of stockholders at the expense of creditors. Such behaviour of risk-transference makes the creditors riskier, leading to higher interest rates and more restrictive debt covenant which further increases the total cost of capital of the firm.

In the case of Agency Theory, it highlights the agency issues arising from the separation of ownership and control in firms. These conflicts between managers and shareholders are more acute in situations when the markets are more volatile. Managers can apply risky investments to maximise shareholder wealth, particularly when financed through debt, as the payoff will have a disproportionate share of equity holders. This conflict of interest is magnified by emerging markets, which are less governed and more likely to involve managerial decisions. The risk-shifting behaviour has a high probability because managers can use debt to support aggressive expansion policies that boost their compensation and equity payouts, whereas debt holders risk the downside risk of a higher probability of default (Vo, 2021).

The article by Vo (2021) discloses that creditors are more wary in such markets that have less developed external market conditions and institutional frameworks. This risk-shifting behaviour of the firms causes the cost of debt to increase. Creditors are aware of the increased risks of default and are aware of the increased opportunity to be oppressed by the managers and, therefore, require higher interest rates to reflect the increased risk. Naturally, these higher rates increase the WACC, as well as the possibility that the covenants may be stricter and the performance of the firms may be monitored more closely. The relationship has been proved empirically by a body of research on emerging markets, where companies not only have to pay a greater cost of borrowing but also have less access to financing because borrowing in that setting is seen to be risky (Agasha et al., 2022).

The empirical findings are also consistent with those of Lukanima (2023), who points out that in such a high-risk setting, the debt financing cost is usually so prohibitive that a firm cannot optimise its capital structure. The implication of high WACC in these markets may create inefficient allocation of resources, as firms will have to depend on equity financing, though it will dilute the control that comes with it. Although equity financing might decrease the direct threat of financial hardship, it also creates the difficulty of ensuring the contentment of the shareholders and avoiding the loss of control by the managers (Kumar & Pandey, 2021). Such decisions are more vital in the emerging markets where the volatility of returns is large, and the necessity to balance debt and equity is usually limited by external factors.

Besides, the results indicate that firms operating in volatile markets experience a dynamic relationship between capital structure and the value of the firm. The higher the level of debts, the lower the WACC at first because of the tax advantages of debt financing. But when the level of debt is exceeded, there will be a heightened risk of default by the firm, and creditors will demand a higher rate, thus raising the WACC and reducing firm value. This observation supports the Trade-Off Theory that asserts that companies trade off the advantages of debt (which includes tax shields) against the disadvantages of financial distress. Nevertheless, within a high-risk market, the enforcement of debt leverage is curtailed by the rising risks of default, which is a negative influence on firm value (Higgins, 2023).

Furthermore, Agency Theory emphasises the cost of monitoring and bonding to reduce these risks. Al-Faryan (2024) observes the agency costs that arise in the context of monitoring of management, and the implementation of restrictive covenants, are particularly significant in the case of high leverage. Moral hazard in new markets, in which legal and regulatory enforcement may be less, increases the cost of raising capital, such as debt. These mechanisms are reinforced in the presence of real frictions by the Modigliani-Miller (MM) theory. But when corporate taxes and the costs of bankruptcy are taken into account, debt pays only up to a point. Ai et al. (2021) highlight that, although tax shields initially decrease WACC, an overuse of debt generates financial distress costs and washes out the advantages. This is especially true in nascent markets that have limited refinancing access and greater volatility. The increased default risks due to high levels of debt in these set-ups play a significant role in the rise of WACC because firms are punished by lenders and equity markets alike for over-levering.

The empirical model revealed an influence of certain variables such as lending rates (LENDR), and credit rating (CRAT) as moderators among debt and WACC. Interestingly, the current study findings revealed a greater rise in the cost of capital at higher debt ratios for lower credit quality and relatively credit-constrained firms. This supports the claim in the literature about the fact that the impact of financial market imperfections is higher for firms operating in less developed markets (Graham & Harvey, 2001). Further, the control variables firm size (SIZ), return on equity (ROE) and industry type (INDRS) were observed to have significantly impacted WACC. The negative coefficient on firm size is consistent with previous evidence that larger firms, those that possess more stable cash flows and more diversified activities, typically have lower financing costs (Zhang & Li, 2023).

On the other hand, the positive relationship between ROE and WACC could indicate that higher return firms have a higher tolerance for risk, particularly in industries with significant opportunities for growth, which in turn leads to a higher cost of equity and results in a higher WACC. The findings in H1 provide strong support for the hypothesis that capital structure decisions in new markets are linked heavily to perceived default risk, governance quality, and the firm’s availability of funding. In this context, the results support the applicability of both Agency Theory and the MM real-world extension in that debt, while decreasing initial financing costs, significantly increases WACC as it is used in an uncontrolled way in conditions of uncertainty, which raises both risk perception and agency conflicts. This is particularly important for financial managers in emerging economies who need to accurately access their capital structure to maintain the quality of the optimal financing.

The direct relationship that high ROE has with a high WACC is in agreement with previous research which demonstrates that the risk-return tradeoff is not a one-dimensional construct. Firms with higher returns will tend to reinvest more in growth opportunities and have a higher financial risk (Krause et al., 2019). In a high-growth industry like technology or pharmaceuticals, companies usually use debt financing to support their expansion plan. But such dependence on debt financing in speculative environments where market conditions change quickly may increase the perceived risk as well as the cost of equity. This is in line with the Trade-Off Theory, which assumes that the cost of capital may be reduced by tax shields, especially when debt is used in large amounts; however, excess use of debt makes the costs of financial distress rise, thus raising the WACC (Miller & Modigliani, 1963).

The same relationship is further supported by the results of Hypothesis 1, which demonstrate that the cost of capital is a major concern in emerging markets where risks of defaults are more severe. Debt in these settings can lower the cost of initial financing, but as seen in the outcomes, it will affect a high WACC. The reason is that, due to increased risks of default, creditors will scrutinise the matters even further and will achieve high returns in order to compensate for the perceived risk of the matter. This rise in the cost of debt is directly translated into the overall WACC, and it is a pressing factor in companies that work in such markets (Luken et al., 2023).

The Agency Theory can also be useful in regard to this relationship. The Agency Theory holds that the ownership and control in a company are separated, and this leads to a conflict of interests between the shareholders and managers. These agency issues are aggravated in the high-risk environments, including those in emerging markets. Managers can also seek riskier ventures, particularly where this venture is funded using debt, because the positive gains will usually be enjoyed by equity owners, whereas the negative risks will be shared with creditors. This type of imbalance increases the cost of capital since the creditors may impose higher interest rates, or place limitations on covenants in order to mitigate the impact of the higher risk. This dynamic has demonstrated the importance of effective governance structures with regard to making decisions on capital structure when situations are unpredictable.

The findings also support the real-life extension of MM that despite its ability to reduce the initial investment cost of capital by covering tax, it is subject to the cost of the increased perceptions of risks in the volatile markets (Modigliani and Miller, 1963). The companies in the emerging markets tend to be governance problematic that debt may not be the optimal solution especially when the risks associated with the use of debt are not managed well. Therefore, the financial managers in such markets must strike a thin line in the choice of the capital structure. This is aimed at obtaining a minimum cost financing mix in which the firm is not subjected to too many risks which may adversely affect its value and its cost of capital (Higgins, 2023).

Finally, it highlights the significance of good governance and financial availability in informing capital structure decisions in emerging economies. As a financial manager and especially in developing countries, these findings reveal that it is important to plan and manage risks when deciding the capital structure of a firm. The conclusions that can be made by the Agency Theory and the MM extension of the real world indicate that debt may be a useful means of finance and should be applied with caution, not to worsen the agency problem and raise the cost of capital generally. Financial managers can also optimise their capital structure by taking into consideration internal and external risk factors to ensure long-term value maximisation and financial stability.

The second hypothesis was developed in order to look at the argument based on the Pecking Order Theory that more profitable firms having higher market capitalisation were likely to be characterised by lower leverage. The result was only partial support for this hypothesis in the empirical examination. Although market capitalisation (MCAP) was a significant determinant of the leverage ratio, the size variable for profitability (using the return on equity, ROE) was not found to be statistically significant for the decision to apply debt to equity. These results provide an occasion to challenge some assumptions of the Pecking Order Theory and to consider how ideas may be modified due to firm-related traits and institutional variables. Companies have a preference for internal rather than external financing, and when they must use external financial resources, they prefer debt over equity (Yıldırım & Çelik, 2021). Such preference ordering is due to information asymmetry and it is assumed that the managers have more accurate information about the firm value than the outside investors. By offering equity, a firm may be sending a message to the market that it believes its stock is overpriced, which can depress its stock price.

Profitable firms that have more available to use internal funds, would have lower dependence on external debt. However, the data showed a more complicated relationship. While larger firms seemed to handle more debt (suggesting that they are encouraged by their future outlook and stock pricing) the lack of negative association between profitability and leverage invalidates a strict interpretation of the Pecking Order Theory. One possible reason could be the use of retained earnings to measure profitability. Although ROE is a comprehensive measure of a firm’s financial performance, it might not capture well the availability of internal funds, particularly when reinvestment requirements and dividend policies are not considered (Chaklader & Padmapriya, 2021). Moreover, even profitable firms in some industries may choose to use leverage either for strategic or tax reasons. In these cases, companies actively update their financing structure to respond to financial distress. This evidence implies that the weak evidence in our analysis could reflect a sample of firms that do not change much over time and have stable operations and predictable earnings, which in turn attenuate the external financing over the internal financing ratio.

Moreover, Nguyen & Tran (2024) emphasise the relevance of firm-level dynamics, such as size, risk profile, and access to capital markets, in the determination of the preference for leverage. Bigger firms, by contrast, typically have superior access to debt and equity markets and can therefore optimise the mix in such a way that it minimises their cost of capital rather than follows the pecking order. About the above, the positive relationship between the size of the firm (SIZ) and low leverage also supports the established argument that larger firms prefer a more moderate or conservative financing mix based on internal and external factors. Another explanation could be that the capital market has changed over time in terms of transparency, the credit rating system and regulation, which has made a difference in the information asymmetry to some extent. Thus, the traditional stigma of issuing equity may not apply today, at least for well-governed firms with strong investor confidence. Therefore, the traditional assumptions of the Pecking Order Theory may not be fully applicable in contemporary corporate finance settings, particularly for publicly traded organisations in developed or semi-developed economies.

The results of Hypothesis 2 also represent the notion that the firm size (SIZ) affects leverage decisions. Particularly, the correlation between firm size and low leverage is positive, which implies that the large firms will not take the high debt levels that could be desirable for the small firms under the Pecking Order Theory. The bigger companies, which have greater access to equity capital, can be more able to take risks without excessive borrowing. The capability of the issuance of equity at lower costs indicates the dynamic aspects of capital markets and a decrease in the stigma of equity issuance in most advanced or semi-advanced economies. This change violates the classical principles of the Pecking Order Theory, which had hypothesised that the advantage of using debt financing is always the case because of the informational asymmetry existing between managers and the outside investors.

Among the most important changes in the contemporary capital markets, the rising transparency and the better regulatory frameworks that govern the issue of equity must be mentioned. As stressed by Zhao & Wang (2023), the credit rating is playing its role, and the development of financial markets has helped to decrease information asymmetry that previously made the issuance of equity less appealing. One can actually build companies that is well-governed organizations with good reputation and have the ability to issue equity without it being politically correct and short of this benign form of the word, dilution. This makes equity financing more attractive, especially with larger, publicly traded companies where they can appeal to institutional investors and analysts that feel more confident in their present and future financial position.

The formation of the capital market has also witnessed and brought into being an inelastic credit rating system which is very crucial for a company to access debt financing. Highly credit-rated firms get to borrow at a low interest rate, hence reducing their cost of capital. This especially applies in the case of bigger companies, where they have the advantage of issuing both debt and equity on more favourable terms (Agasha et al., 2022). Here, quality governance structures and transparency would further help firms to optimise their financing mix, as investors will be ready to accept the issuance of equity when they are sure that the firm has a bright future with a good probability of survival.

The change in the capital market dynamics, thus, questions the relevance of the Pecking Order Theory as it is. The aspect of the theory that focuses on the hierarchical preference of financing, where debt is favoured over equity because of its cheapness, is of less importance in the current capital markets, as big companies are able to utilise debt and equity more successfully. The larger the firm, the more they find themselves in the capital markets, the more effective the equity issuance option becomes to raise funds at lower costs associated with it, and this is why the firms do not need to become too dependent on debt.

Such a transformation in the way the capital market functions is also facilitated by the fact that contemporary capital structure choices have become more refined and situational; they depend on the stage of development of the firm, the industry, and the availability of various funding sources (Sitorus & Siregar, 2022). The classical premises of the Pecking Order Theory might not be very relevant to modern corporate finance, especially among the publicly traded companies in developed and semi-developed economies, where the availability of equity markets and better governance systems offers more leeway in financing choices.

The third hypothesis examined the classic premise of the Trade-Off Theory that firm value initially increases and then decreases with increasing leverage (debt). In this theory, firm value initially increases in debt because of the tax shields of interest but starts to decrease beyond a certain point when the costs or financial distress and agency costs start to dominate these benefits. The empirical results of this study showed a different pattern, namely a U-shaped and statistically significant relationship between debt-equity ratio and firm value, implying that firms with relatively moderate levels of debt had lower value than those with either high or low levels of leverage. These results challenge the underlying assumption that the Trade-Off Theory is based on and call on a more subtle view of capital structure decisions. The traditional model assumes too that there is an optimum ratio between debt and value of the firm, but the observed U-shaped shows that in all the firms, this optimum cannot lie in the middle between the bond and equity ratios. Alternatively, it could be true that low-debt companies can use the reputations based on strong equity and financial flexibility and at the other end of the spectrum, highly leveraged companies can have higher valuation due to signalling strategies or growth strategy supported by external finance (Brusov et al., 2023).

The results corroborate with views advocated by Smith (2020) that the optimal capital structure is firm and industry-specific, and depends on the firm's risk preference and market timing factors. In other sectors—e.g. infrastructure, telecommunications and energy—higher indebtedness can be considered quite positively by investors, who see it as an expression of long-term commitments to projects and stable cash flows. Importance of investor sentiment and capital market signalling is needed in explaining the U-shaped finding. The market can interpret a high level of leverage as a signal to the trust in the ability of managers to generate future cash flows and thus the value of the firm can increase. This is especially the case if firms can show that they can meet debt servicing obligations without impinging on operational performance. Brusov et al. (2023) observe that, in today's financial environment, companies apply complex financial and risk tools to cushion infrastructure to higher leverage, maintaining the number of debts higher in the company without affecting the firm value to the same extent.

The empirical model adopted in this paper for the analysis had firm size (SIZ), profitability (ROE) and cash flow volatility (SD_OCF) as control variables that better explained the non-linearity. Firms with high ROE and stable cash flows had the potential to effectively maintain both high and low levels of debt to maintain or improve firm value. Conversely, mid-leverage businesses with weaker earnings or inconsistent operational cash flows were punished in the market and valued lower. In addition, a factor such as corporate governance and manager incentives cannot be overlooked. In firms with poor governance practices, a moderate degree of leverage may not achieve the disciplining effect implied in agency theory, but rather a high level of debt led to increased monitoring from creditors and outsiders, thus indirectly correcting managerial inaction (Javaid et al., 2023). This insight partially explains why some firms with more debt may be considered more productive, better-run firms with higher valuations despite their higher elevations of risk.

Hypothesis 4 predicted a U-shaped association between the cost of capital as measured by WACC and debt level relying upon theoretical predictions from the real-world-extended Modigliani-Miller (MM) framework. Although the empirical findings of this study did not reveal a statistically significant relationship at the conventional 5% level of significance, however, the sign was in line with theory, that is WACC decreases initially with higher leverage before increasing at high leverage. This is consistent with the notion that debt has value-increasing and --reducing effects, depending on its scale and circumstances. According to the tax-adjusted MM theory, the firm's cost of capital is initially lowered when it begins to use debt financing because interest payments can be deducted from the firm's tax obligations (Bossone, 2022). This tax shield motive encourages value-maximising firms to use debt in their capital structure. However, as Ai et al. (2020) argue, excessive leverage will cause significant financial distress costs, such as bankruptcy costs, agency costs, and the reduction of operating flexibility. These addends eventually dominate the tax shield advantage and drive a rising WACC.

The observed findings in the present study are consistent with the study by Kontuš et al. (2023) which also found similarly shaped U-profiles in different industries, with the cost of capital minimised at moderate levels of leverage. Although a U-shaped curve was not significant in the present study, the model residuals and coefficient signs were consistent with the theoretical expectation. This suggests that the point of inflection where WACC starts to rise after declining could be quite different for different firms, as a function of profitability, industry risk, and the market environment. In addition, the inclusion of control variables cash flow volatility (SD_OCF) and firm size (SIZ) provides further support for the contingency of the U-shaped curve. Firms with a more unstable CF are riskier at higher debt, so the marginal rate of new financing becomes higher. Larger firms are also likely to benefit from scale economies in financing, which would delay the increase in WACC with leverage.

Hypothesis 5 tested the moderation of the capital structure–value association by industry-specific factors such as operating environment stability and cash flow patterns. These results, as expected partially supported this hypothesis. Even though the magnitude of the direct effect of debt was not statistically significant, results suggested that debt is more positively related to firm value in stable industries relative to unstable industries. This finding confirms that the industry context does moderate the link between leverage decisions and firm performance. The explanation for the current study's result is rooted in the predictability of cash flows across industries. The working capitals of businesses in the more stable sections of the economy like utilities, consumption goods or controlled infrastructure are more secure. This provides the method of more stable serving of a debt and this gives the means of more agreeable leverage and even profitable in terms of valuation. It is also important to note that Graham (2000) asserts that in such industries, debt can be applied as performance enhancer though it does not play a considerable role on likelihood of being reduced by financial distress.

On the other hand, the cash flows of the industries, where the speed of innovation is high, where regulatory uncertainty occurs, or where the demand is not even and predictable, are not even predicted. In this type of environment, more debt could make the financial strength weaker and less sustainable in the long term. In such high-risk regions, as Higgins (2023) observes, companies will find it more acceptable to adopt safer debt policies so that they have the flexibility and minimize the chances of default. These theoretical points give a rationale as to why companies in relatively non-volatile industries can be valued more even though they may have a larger than proportionate capital structure in their balance sheets as compared to highly volatile companies that might also have the same capital structure. It was also found that the cash flow volatility (SD OCF) and firm size (SIZ) mediated the role of the industry context on the effect of capital structure. The slight alterations of the cash flow led to reasonable effects of valuation to higher amounts of debt application, which are congruent to the offer that predictable income derivatives enhance attractiveness of debt funds. So are larger firms in non-growing industries, which seemed to be quite less susceptible to leverage risks at the scale economies and higher degree of credit to firm.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1. Conclusion of the Study

This research paper has discussed how the capital structure of a firm influences the cost of capital as well as its value. Based on solid theory-grounded (particularly, Modigliani-Miller, the Trade-Off, Pecking Order, and Agency Theories) insights and backed up by numerous experiments, the impact of differing debt and equity levels on corporate financial performance has been developed.

The findings confirm that the determinants of capital structure choices form an integral part of corporate finance and appear to be closely dependent on firm-specific characteristics, industry characteristics, market development, and external influences such as the availability of credit and regulatory environment. The results support the notion of capital structure as a moving target, refuting the notion of optimal leverage for all firms. The first main finding of the analysis is that the cost of capital is related to the capital structure. A higher debt level of companies operating in younger or riskier markets is more likely to reflect a higher cost of capital, as the risk of default would be greater and financing conditions less favourable.

Second, the study supports the Pecking Order Theory only in part as it indicates that companies who generate higher profitability tend to be able to make use of their internal funds, but not to ensure lower leverage. The positive relationship between high market capitalisation and debt-equity also has an impact on the capital structure, while profitability did not exhibit negative significant relation with leverage, which deviated from the theoretical predictions. This possible factor suggests that even though some firms are profitable, they may use debt to capitalise on market opportunities, to strategically manage liquidity, or to maintain equity control.

Third, this research provides strong evidence of an adverse relationship between debt and firm value that is negative over some optimal level for debt. Indeed, the relationship itself was U-shaped, meaning that while moderate levels of leverage may decrease firm value, increased leverage might also increase it under different circumstances. This is inconsistent with the assumption in the Trade-Off Theory, that there is an optimal capital structure, and it reflects the difficulty and context dependence of leveraged outcomes.

6.2. Recommendations for Practical Implications

Based on the study findings, there exist some practical advice to the Corporate Managers, Investors and Policy Makers. The first step that corporate financial managers have to make is dynamic, strategic approach to capital structuring, the approach that puts into consideration not only academia but real-world constraints and opportunities. There should be especial care in transitional or risky markets that managers accumulate debt. Even though some leverage may be beneficial in the utilization of tax and accruing more capital, high debt rates in such environments are likely to lead to increased cost of capital that will induce increased perception of risks among investors and lenders. In response to these risks, firms should enhance their credit quality through bettering the quality of their financial reporting and enhancing their transparency and governance. In the same way, the use of international accounting standards (IAS) and enhancement of relations with investors may reduce the level of perceived risk and cost of capital.

Companies may also put into consideration the strategic impact of time in making financing decisions. As an example, when interest rates are low or there is a stable financial environment then debt issuances allow firms to fix the cost at a reduced price and equity use is more suitable during booms in the stock market to ensure that holdings are maintained and they do not run into bankruptcy. This puts financial managers in a tight spot in terms of being very sensitive to the macroeconomic factors and adaptable in the decision making on financing.

The corporate managers should be advised to ensure that they establish an active long-term capital strategy. The management should understand that capital structure is not a choice and it is a dynamic phenomenon and should be continuously revisited and revised in a dynamic environment. Managing them could have strong contingency plans adopted in their control as in the emerging economies because they may be in a position to react to sudden economic shocks or market conditions in high volatility markets. This can be an elasticity in monetary buffers, other funding methods and frequent reconsideration of the leverage ratios to ensure that your business is not so feeble to market shock. Moreover, the managers of risk-averse firms would be alerted to the growing debt level and so that leverage is not utilized blindly and simply because it exists.

The next highly valuable advice that will be potentially granted to the corporate executives is that the managers must develop an approach to financial discipline along with strategic risk taking. While debt provides a useful tool for leveraging growth, using too much of it in precarious conditions can make the company more susceptible to falling into financial distress. Managers need to give more consideration to risk-financial stability trade-off. This has been attained through the wise use of debt to fund strategic projects that have a lot of payoffs without overreliance on the financial capacity of the company to the point of overworking it. The flexibility of the debt-equity structure towards adaptation to externalities is essential to long-term sustainability. The managers also need to take care of how the market environment affects the decisions they make in financing, and change their style depending on the interest rates, economic cycles, and investor sentiment.

Moreover, managers should be more concerned with the betterment of the governance and transparency of their company. This covers the observation of international standards of financial reporting, which would minimise the informational asymmetry between the company and prospective investors or creditors. Open financial practices and reporting will go a long way in mitigating perceived risks, particularly in the emerging markets, where a company is likely to be subjected to greater scrutiny by investors because of uncertainties in the regulations. Working in relation to the international accounting standards and the establishment of open communication with the stakeholders, the managers are able to reduce the cost of capital and appeal to a wider range of investors.

To the investors, the study presents the significance of focusing on the larger picture of the capital structure of a given company when making an investment decision. Rather than being keen on what the debt-equity ratio is in the short run, investors need to consider how the capital structure fits within the business model, industry attributes, and long-term objectives of a firm. Companies operating in capital-intensive industries or those experiencing technological changes may have other capital structure issues than other companies operating in established industries. The investors should consider the level of financial risk, which the firm is undertaking, considering such aspects as the stability of the cash flows, the stance of the firm in the competition, and the future growth of the industry. In addition, the investors must consider corporate governance of the company as one of the factors, because appropriate corporate governance could lessen certain risks associated with a high debt volume and low managerial standards.

The investors also will be able to observe the strategic flexibility of the capital structure of the company. The flexibility of a company to adjust its finance structure to the fluctuations in the market conditions is a critical success factor in the long run. Therefore, investors should have the desire to invest in firms that show the capacity to enact adaptive financial policy, especially in unpredictable markets that may limit growth opportunities through the use of constraining financing models. A narrowing down of the companies with agile and well-managed capital structure will mean that an investor is in a better position to give high returns with low exposure to risk.

The research also recommends that predictable and clear financial system should be built as a message to policy makers to facilitate good capital structure decisions. The drivers must become a focus in further enhancing the financial infrastructure to support the repercussion and transparency in the financial markets, by the big and small businesses. This way, they will enable the companies to enjoy the benefit that they will be able to access a wide range of sources of finance, both in terms of debt and equity, to do so under competitive conditions. This would assist the companies in optimizing their capital structure and reduce the risks posed by the excessive dependence on a single source of finance. Moreover, long-term active investment may be used to make companies more sustainable and less short-term oriented financing.

Furthermore, policy-makers should consider adopting measures that would boost the liquidity and access to equities markets in those firms which were rooted in the emerging markets. Many of these companies in these geographies typically have very high interest rates on borrowing because they barely have access to equity finance. The policymakers can aid in reducing the reliance of firms on expensive debt and equip them with the necessary instruments to develop more balanced and sustainable capital structures by enhancing access to public equity markets and encouraging institutional investors to enter the markets.

According to the Pecking Order Theory, firms should prefer internal financing when it is available, particularly when the firm has profitability and liquidity. However, dependence on internal cash should not be to the detriment of strategic investment or commercial flexibility. A second practical implication is that the firms should manage their capital structure dynamically, not only statically. This is particularly important in sectors where technology evolves quickly, consumer tastes change or there is regulatory uncertainty. Optimising the capital structure needs to be a component of the ongoing strategic planning process, with cross-functional contributions from finance, risk, operations and corporate strategy teams. From an investor viewpoint, the research highlights the need to examine a firm's capital structure not only in its immediate debt-equity ratio but also through industry averages, firm scale effects, profitability historical tendencies, and governance standards.

6.3. Recommendations for Future Research

Although this research has provided insightful findings regarding the relationship between capital structure, cost of capital and firm value, there are a number of avenues for future research. There is a need to widen the analysis in the future to cover more geographies and sectors. This study primarily concentrated on a sample of listed companies from different sectors and the dynamics of capital structuring in private firms, start-ups, or NPOs could demonstrate different behaviour in capital structure decision making especially given the differences in access to finance and governance structure.

It may also be interesting to consider behavioural finance in capital structuring decisions from future researchers. Traditional theories are framed under the assumption of rational decisions, and new findings in the literature show how managerial biases, risk perception and heuristics play a large role in the selection of financing. Another potential avenue for research is the inclusion of ESG into capital structure theory. Since ESG is increasingly affecting the decision-making process and costs of financing of investors, future studies can examine the impact of sustainability performance on the cost of capital and debt ratios. This can include cross-firm comparisons between firms that have diverse ESG ratings, or time-series studies of the dynamic relationship between ESG transformation and financing results.

Besides, one will have to be more attentive to the relationship between the capital structure and the investment into the innovation. The technology-based sectors favour use of equity more because the assets are softer and the revenue base is very volatile. Future uses Methodological implications Future studies that make use of mixed-methods. Although the research approach of this study was quantitative and based on the use of secondary data, qualitative research, such as interviews with financial managers or case studies would enable one to get a more in-depth insight into the strategic factors that underlie the decisions of capital structure. Such triangulation may additionally be used to justify and explain quantitative data in a more significant way. The further studies may also aim at enhancing the models of testing the effect of capital structure on the cost of capital.

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